

ASSESSING THE VALIDITY OF THE QUARTILE RISK MODEL
FOR PREDICTING DELIBERATE SELF-HARM

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John M. Carrell

Department of Psychology

University of Canterbury

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List of Abbreviations

ANOVA	Analysis of Variance
DES	Dissociative Experiences Scale – Second Edition
DSH	Deliberate self-harm
ESS	Experience of Shame Scale
MANOVA	Multivariate Analysis of Variance
PTSD	Post-Traumatic Stress Disorder
SD	Standard Deviation
SIQ	The Self-Injury Questionnaire
SPSS	Statistical Package for the Social Sciences

Abstract

Deliberate self-harm involves a deliberate physical act with the intent of harming the self, and it is common in both community and clinical populations. There are many precipitants to this behaviour, with dissociation receiving increasing recent attention. The current study examined Karpel and Jerram's (2015) quartile risk model for predicting deliberate self-harm. The model proposes that four quadrants of dissociation (low normative, high normative, low clinical, and high clinical) represent varying levels of risk for engagement in deliberate self-harm. The model posits that quadrants one and three, low normative and low clinical, protect against engagement in deliberate self-harm. Quadrants two and four, high normative and high clinical, are suggested to represent an increased risk of engaging in deliberate self-harm. The current study also investigated the association between shame and deliberate self-harm. It was hypothesised that participants within the first and third quartiles of dissociation severity would demonstrate lower levels of harmful behaviours than those in quadrants two and four. Second, it was hypothesised that higher levels of shame would be associated with higher levels of deliberate self-harm. Students from the University of Canterbury ($n = 247$) completed three measures assessing trait dissociation, state and trait shame, and deliberate self-harm. Results did not support Karpel and Jerram's (2015) quartile risk model, rather they suggested a general increasing level of deliberate self-harm with heightened dissociation. Furthermore, trait shame was significantly associated with deliberate self-harm, while significantly more state shame was found to occur before engaging in deliberate self-harm relative to after. Collectively, the results suggest support for hypothesis two, that shame is related to increased deliberate self-harm, but do not indicate support for hypothesis one, the quartile risk model for dissociation and deliberate self-harm.

The physical act of deliberately harming oneself is a particularly unusual behaviour. It is unusual in that it is counterintuitive to basic human preservation instincts (Nock, 2010). However, evidence suggests that deliberate self-harm (DSH) serves other purposes: one of those being the expression of distressing emotion in a physical form as an attempt to manage it (Briere & Gil, 1998; Ford & Gómez, 2015; Laye-Gindhu & Schonert-Reichl, 2005). That is, the behaviour may serve an affect regulation function which modulates distressing emotional experiences (Klonsky, 2009). Given DSH's strong association with early trauma experiences, it is imperative to explore associated risk factors for the behaviour (Chapman, Gratz, & Brown, 2006; Gratz, 2003, 2006; Gratz, Conrad, & Roemer, 2002; Laye-Gindhu & Schonert-Reichl, 2005).

Trauma is known to be a risk factor for a multitude of developmental difficulties (Glassner, 2015; Herzog, Fleming, Ferdik, & Durkin, 2016). These detrimental outcomes of trauma may also contribute to the development of psychopathology. Evidence suggests that shame and dissociation represent a risk for deliberate self-harm behaviours (M. Z. Brown, Linehan, Comtois, Murray, & Chapman, 2009; Gilbert et al., 2010; Gratz, Chapman, Dixon-Gordon, & Tull, 2016; Laye-Gindhu & Schonert-Reichl, 2005). Dissociation reflects a breakdown in the integration of psychological functions associated with memory, awareness, affect, and behaviour (Dell & O'Neil, 2009). It leads to an array of symptoms including; depersonalisation, derealisation, amnesia, and flashbacks (Dell & O'Neil, 2009). It has been proposed that DSH may disrupt distressing experiences of dissociation, thus implicating dissociation as a risk factor for the behaviour (Batey, May, & Andrade, 2010; Klonsky, 2007). Further to this, recent evidence suggests that varying intensities of dissociation represents differing levels of associated risk for deliberate self-harm behaviours (Karpel & Jerram, 2015).

Shame involves a sense of the self as inferior or defective (Flett, Goldstein, Hewitt, & Wekerle, 2012; Gilbert et al., 2010). It is incredibly harmful to the self-concept and represent a powerful emotional experience with potential psychopathological consequences. Specifically, perceptions that peers view the self as defective or inferior, and a propensity for self-criticism, represents a potential pathway towards harmful regulatory behaviours such as DSH (Xavier, Pinto Gouveia, & Cunha, 2016). Xavier and colleagues (2016) suggest that DSH may also serve as an attempt to punish the self, in line with negative self-evaluations, as well as regulate negative emotions associated with self-hatred.

This thesis and the following review intends to explore the central features of DSH, shame, and dissociation. The current review examines DSH's functions and associated developmental risk factors. Furthermore, research on shame and dissociation's predictive relationship with DSH are presented. Collectively, the current study intends to develop a better understanding of these risk factors and their link to deliberate self-harm, especially with reference to dissociation and shame.

Deliberate Self-Harm: Overview

Within modern culture it is generally acceptable for people to have tattoos, piercings, body enhancing surgery, and/or smoke cigarettes. While these behaviours harm the body, they are generally considered somewhat normal. Yet, the more extreme forms of harmful behaviours such as cutting, burning, or hair pulling are considered pathological. These behaviours are more commonly referred to as DSH. As a reflection of its varying conceptualisations DSH goes by many names in the literature. For the purposes of this study the term DSH is used as it conveys a purposeful action that does harm to one's own body. From a broad perspective, existing literature in the area of DSH defines the behaviour as deliberate and voluntary physical self-injury that is not life threatening, nor motivated by

suicidal intentions, but results in injury severe enough for tissue damage to occur (Gratz, 2003; Gratz et al., 2002; Gratz, Dixon-Gordon, Chapman, & Tull, 2015; Karpel & Jerram, 2015; Klonsky & Olino, 2008; Klonsky, Oltmanns, & Turkheimer, 2003; Laye-Gindhu & Schonert-Reichl, 2005; Nock, 2010).

Although drinking alcohol, eating unhealthy foods, or deliberately cutting oneself share a commonality of altering a physical and affective state, an important point of difference that sets potentially harmful behaviours such as getting a tattoo apart from deliberately cutting and/or burning oneself is the intention to cause harm (Nock, 2010). Consumption of alcohol and/or unhealthy foods carries with it the potential for harm to occur, however, most people engage in these behaviours for pleasure rather than to directly harm themselves. The subsequent harm caused by such behaviours may be considered an indirect consequence. Whereas the harm caused by cutting oneself is the intended purpose of the behaviour (Nock, 2010). Such examples provide insight into DSH's place on the continuum of harmful behaviours, while also underlining the need for further delineation around its place within psychopathology.

Until recently DSH was primarily considered to be a symptom of Borderline Personality Disorder (Briere & Gil, 1998; Gratz et al., 2015). However, a growing body of evidence has now established the behaviour as a phenomenon in a range of diagnoses. These include mood disorders, anxiety disorders, substance abuse, eating disorders, trauma related disorders (e.g., PTSD), schizophrenia, dissociative disorders, as well as other personality disorders (Briere & Gil, 1998; Klonsky et al., 2003). With increasing evidential recognition, DSH was mooted for consideration as a stand-alone disorder within the Diagnostic and Statistical Manual of Mental Disorders fifth edition (DSM-5; APA, 2013). Referred as Non-Suicidal Self-Injury within the manual, DSH has been placed in section three's conditions for

further study (APA, 2013). This placing will allow continued empirical exploration around DSH and its potential diagnostic characteristics and prevalence rates (Zetterqvist, 2015).

Prevalence rates of the more pathological forms of DSH (e.g., cutting & burning) vary substantially across studies, but suggests an increase in prevalence in recent times (Anderson & Crowther, 2012; Gratz et al., 2002; Laye-Gindhu & Schonert-Reichl, 2005). A study conducted by Laye-Gindhu and Schonert-Reichl (2005) examined DSH in 424 school-based adolescents. Overall 15% of the sample reported having engaged in a deliberate self-harm behaviour. Of the self-harmers, females (16.9%) were significantly more likely to harm themselves on purpose relative to males (8.5%). Although this may suggest females are more prone to engaging DSH than males, a finding that has fitted with many conceptualisations of the behaviour, this finding is not universal across existing research (Klonsky et al., 2003). Using a sample of 133 undergraduate students, Gratz and colleagues (2002) found no significant differences between females (41%) and males (36%) who endorsed engagement in DSH. This finding highlights the disparity in the prevalence of DSH within the literature.

These descriptions of DSH provide a basic delineation of the behaviour. However, further explanation of the underlying functions of the behaviour is needed in order to fully grasp why some people resort to such counterintuitive behaviours.

The Functions of Deliberate Self-Harm. A growing body of evidence is emerging that details DSH's functional capacity and is beginning to explain why some individuals engage in these harmful behaviours. Existing literature broadly identifies the following motivations as common underlying functional explanations for the behaviour: affect-regulation, anti-dissociation (i.e., dissociation reducing), anti-suicide, self-punishment, sensation seeking, and interpersonal influence (Briere & Gil, 1998; Buckholdt et al., 2015; Gratz, 2000; Klonsky, 2007). In a review of 18 studies, Klonsky (2007) assessed the evidence

for the proposed functions of DSH. He found the strongest support for that of affect regulation over and above all other behavioural motivations. There was also strong evidence for the self-punishment function (Klonsky, 2007). The anti-dissociation, sensation-seeking, anti-suicide, and inter-personal influence motivations received modest support (Klonsky, 2007).

The notion of DSH acting as interpersonal-influence remains a contentious proposition within popular culture. It suggests DSH serves to influence or manipulate those within the self-injurer's environment (Klonsky, 2007; Linehan, 1993). This motivation is often perceived as attention seeking and selfish (Gratz, 2003; Klonsky, 2007; Linehan, 1993). However, researchers refute this historically popular discourse. Instead, Linehan (1993) proposes that in circumstances where attention is gained or others are influenced by the behaviour, this may be viewed as a secondary consequence. That is, although DSH may influence others this does not mean it represents the conscious intention of the behaviour. Rather, the process of receiving a caring response likely produces an unintended reinforcing outcome (Gratz, 2003). Consistent with this, Briere and Gil (1998) found that although 40% of their sample endorsed inter-personal motivations for DSH, the vast majority of their sample (70%) endorsed the intra-personal functions of self-punishment and relief from distressing emotions as motivations for the behaviour. Thus, the inter-personal motivations can be better conceptualised as a poorly developed ability to overtly communicate distress in an adaptive manner to others, with the hope that the behaviour will elicit a subsequent caring response (Gratz, 2003; Klonsky, 2007; Linehan, 1993).

One of the most common intra-personal explanations for DSH suggests that the behaviour is an expression of anger or a reprimand directed at the self (Klonsky, 2007; Klonsky et al., 2003). This is generally referred to as the self-punishment conceptualisation of the behaviour (Briere & Gil, 1998; Klonsky, 2007). It has been suggested that those raised in

a formative environment characterised by punitive caregiving, and invalidation of emotional experiences have a developmental predisposition to punish and invalidate the self (Linehan, 1993). In line with this, evidence suggests that a developing perception of the self as flawed or defective can lead to harmful behaviours motivated by self-punishment (M. Z. Brown et al., 2009; Xavier, Cunha, & Gouveia, 2015). In her examination of the etiology and functions of DSH, Gratz (2000) found that participants considered DSH an effective method of externalising internal emotional pain. For some it also functioned to express feelings of self-hatred and associated behavioural motivations of self-punishment. Thus, DSH may satisfy the motivation of self-punishment, as well as effectively self-soothing the individual's associated emotional distress.

Despite the clear negative consequences of the behaviour, DSH does appear to be relatively functional especially in regards to affect regulation, albeit as a superficial process (Buckholdt et al., 2015; Chapman et al., 2006; Gratz, 2003; Gratz et al., 2016). The most frequently endorsed function of DSH with the strongest evidential base is that of affect-regulation (Buckholdt et al., 2015; Chapman et al., 2006; Gratz, 2000; Gratz et al., 2016; Klonsky, 2007; Laye-Gindhu & Schonert-Reichl, 2005). This approach suggests that DSH is a strategy used to alleviate acutely distressing negative affect (Gratz, 2000, 2003; Klonsky, 2007; Laye-Gindhu & Schonert-Reichl, 2005). Gratz (2000) found that the most common function of DSH in her study, reported by 76% of participants, was to relieve aversive emotional experiences. Her participants considered the physical expression of their emotional pain to be much more tangible, less abstract, and easier to understand than the emotional experience (Gratz, 2000). Similarly, Laye-Gindhu and Schonert-Reichl's (2005) study found that the most frequently endorsed reason for DSH within their sample was that of affect-regulation. They suggest that experienced aversive feelings were reduced both during and subsequent to acts of DSH (Laye-Gindhu & Schonert-Reichl, 2005). A study by Gratz and

colleagues (2016) examined the role of emotional relief in the maintenance of DSH. They found that individuals with a recent/recurrent history of DSH endorsed a significantly stronger connection between DSH and relief than those with no history of the behaviour. Furthermore, the strength of the association was also positively associated with several characteristics that have been linked to greater DSH severity. These included the use of multiple methods and more intra-personal, rather than inter-personal, motivations (Buckholdt et al., 2015; Gratz et al., 2016). Collectively, Gratz and colleagues findings suggest that the emotional association, learned through the interaction of DSH and subsequent emotional relief, is likely to play a unique role in the maintenance of the behaviour.

Thus, the majority of those who engage in DSH appear to do so as they possess a diminished ability to implement more skilful strategies of emotion regulation (Briere & Gil, 1998; Buckholdt et al., 2015; Chapman et al., 2006; Gratz et al., 2016; Laye-Gindhu & Schonert-Reichl, 2005; Linehan, 1993). Emotion regulation is a multi-layered phenomenon, one which involves the awareness, understanding and acceptance of emotions (Buckholdt et al., 2015). Healthy emotion regulation involves an ability to tolerate negative emotional experiences, often as a part of pursuing meaningful life activities or goals, and inhibit impulsive behaviours in line with meeting these goals (Buckholdt et al., 2015; Hill, 2015). It also involves individuals using flexible strategies to modulate the intensity or duration of distressing emotions as a means to fit situational or personal demands (Buckholdt et al., 2015; Hill, 2015). This complex cognitive function is an essential part of emotional intelligence. Utilising maladaptive strategies, such as DSH, reflects a break-down in this adaptive emotional processes.

In a sense, DSH may be conceptualised as a behaviour that facilitates avoidance or escape from distressing emotional experiences. To this end, DSH fits within the continuum of experiential avoidance behaviours (Chapman et al., 2006; Hayes, Wilson, Gifford, Follette, &

Strosahl, 2016). Experiential avoidance encompasses a broad set of behaviours that function to avoid or escape unwanted internal experiences (Chapman et al., 2006; Hayes et al., 2016). This includes thoughts, feelings, dissociation, somatic complaints, and the triggers that elicit them. Individuals with no, or only limited, abilities to regulate these experiences are vulnerable to engage in risky behaviours in order to avoid or escape them (Chapman et al., 2006). By utilising experiential avoidance strategies, individuals negatively reinforce maladaptive strategies such as DSH. Accordingly, this serves to increase the likelihood of repeating the behaviour.

As research continues to emerge on why people deliberately harm themselves, the need to examine risk and vulnerability factors for DSH requires attention.

Predictors of Deliberate Self-Harm. The developmental pathways by which a person comes to engage in DSH is extremely varied. Existing literature has identified both environmental and individual risk factors as significant contributors to the development of this behaviour. In particular, research has highlighted trauma as a critical risk factor for DSH (Gatta, Miscioscia, Sisti, Comis, & Battistella, 2017; Gratz, 2003, 2006; Gratz & Chapman, 2007; Gratz et al., 2002; Nock, 2010; Xavier et al., 2015). Linehan (1993) has suggested that traumatic formative environmental conditions, in interaction with an emotional vulnerability, predisposes an individual to emotion dysregulation and associated behaviours. Similarly, Nock (2010) has suggested that some people possess intrapersonal and/or interpersonal vulnerability characteristics that limit their capacity to respond in an adaptive manner to emotionally charged events. Subsequently, Nock (2010) posits that these people are at risk of attempting to regulate their experience by implementing maladaptive strategies, such as DSH, in order to meet their needs. Accordingly, attention given to the mechanisms contributing to the development of DSH is necessary in order to understand the underlying risk factors.

Environmental conditions are known to significantly impact on shaping the development of individual characteristics such as: secure attachments, emotional intelligence, self-concept, and emotion regulation (Gratz et al., 2002; Linehan, 1993). Equally, the environment may foster the development of vulnerabilities and subsequent psychopathology (Gratz et al., 2002). For example, an already emotionally and/or temperamentally vulnerable child creates extra environmental demands (Linehan, 1993). Such a child will test and at times strain a parent or caregiver's ability to respond in a sensitive, patient, and caring manner. When the environmental conditions are not so forgiving for the child, that is the parent or caregiver is unable or unwilling to meet the child's emotional needs, there is a subsequent risk that the environment will inadvertently nurture the development of individual vulnerabilities (Gratz et al., 2002). Linehan (1993) has examined the potential implications of such environmental conditions, referring to them as invalidating environments.

An invalidating environment is one in which the communication of internal experiences to the immediate environment is met with unpredictable, incongruent, and unnecessarily aversive responses (Linehan, 1993). Linehan (1993) proposes that such environmental conditions may teach poor strategies for coping with emotional distress. A child developing within this environment and/or with a temperament for emotional instability is less likely to be able to adaptively manage their affect (Klonsky, 2007; Linehan, 1993). Ultimately, the child may develop a propensity towards emotion dysregulation with a diminished ability for tolerating distressing experiences. Linehan (1993) proposes that the child will learn to oscillate between emotional inhibition and extreme emotional and behavioural states. Thus, a developmental trajectory towards extreme behavioural expressions, such as DSH, may be fostered within the invalidating environment.

Several lines of research reinforce Linehan's (1993) theory that formative environmental conditions are integral to the development of DSH. In a study conducted by

Xavier, Cunha, and Gouveia (2015) the researchers examined the association of several environmental features and their predictive association with DSH. Their findings suggest that adolescents who recall feeling threatened, submissive, and undervalued during their formative years were liable to have more fears of compassion, both for others and themselves, experience higher levels of negative affect, lower levels of positive affect, and engage in more self-destructive behaviours. Collectively, this finding suggests that when children are subjected to threat and neglect during their early years they are likely to be more threat sensitive, develop self-critical beliefs, and are susceptible to experiences of depression and shame (Xavier et al., 2015). These children may develop limited abilities to self-regulate their affective experience, leaving them vulnerable to the later development of self-destructive behaviours (Xavier et al., 2015). It appears that children and adolescents who experience abuse and neglect from a core attachment figure(s) may have an inability to direct kindness and compassion towards themselves, and others. Such individuals may represent a particularly vulnerable group who are at risk of engaging in DSH behaviours (Xavier et al., 2015).

Further literature has supplemented the aforementioned position of the formative environment contributing to the developing risk of DSH. A study conducted by Gratz and colleagues (2002) examined the unique risk factors for DSH among a sample of university students. Of note, when the risk factors were examined separately for both men and women the researchers found several unique gender differences. For females, the researchers identified dissociation, insecure paternal attachment, childhood sexual abuse and emotional neglect as significant predictors of DSH among women (Gratz et al., 2002). Conversely, for males the researchers identified childhood separation from paternal caregivers as a significant predictor of DSH. Further to this, childhood sexual abuse was not found to be a significant predictor of DSH among males. However, this finding should be interpreted with caution

based on the small number of men in the study ($n = 31$) relative to women ($n = 102$) (Gratz et al., 2002). This particular finding is of interest as it is counterintuitive to existing literature which has placed a large emphasis on the role of sexual abuse and its predictive association with DSH (Baral, Kora, Yüksel, & Sezgin, 1998; Boudewyn & Liem, 1995; Briere & Gil, 1998; Gratz, 2003; Gratz et al., 2002). Thus, it seems that men may be less vulnerable to the effects of sexual abuse than females, but more vulnerable to the loss of the paternal attachment figure, while females may have particular vulnerabilities in environments where they have a poor paternal relationship and/or their emotional needs are not being met (Gratz, 2003; Gratz et al., 2002). Collectively, this study highlights the importance of the formative environment, with particular emphasis on the caregiver relationship in both its presence and emotional quality, in the development of DSH. It has also revealed an emerging need to examine the unique risk factors associated with males and females separately when investigating the etiology of this behaviour.

Gratz (2006) offered similar findings in her study which examined the role of child maltreatment, emotional inexpressivity, and affect intensity/reactivity in the DSH behaviours of a sample of female university students. Gratz's (2006) findings were consistent with theoretical and empirical literature which have identified formative environmental conditions as predictors of DSH. Childhood maltreatment consistently distinguished women with frequent DSH from women without DSH (Gratz, 2006). Further findings suggest that individual differences in emotional responding also distinguish deliberate self-harmers from non-deliberate self-harmers. That is, women in the sample who experienced low positive affect intensity and/or reactivity, or were emotionally inexpressive, had more frequent DSH (Gratz, 2006).

In summary, the formative environment is known to have a significant influence on shaping the development of individual characteristics, as well as potential vulnerabilities for

DSH (Gratz et al., 2002). However, environmental factors that contribute to the development of the aforementioned vulnerability factors are not necessarily specific to DSH. Instead, the identified factors nurtures the development of individual vulnerabilities which sets a potential pathway towards DSH (Nock, 2010).

Deliberate Self-Harm: Shame and Trauma

Increasingly, the emotional experience of shame is emerging within the literature as another consequence of early life trauma (Gilbert et al., 2010; Richter, Gilbert, & McEwan, 2009; Stuewig & McCloskey, 2005). It suggests that those who develop within such an environment are prone to forming shame-filled, self-critical, or self-disliking views of themselves (Irons, Gilbert, Baldwin, Baccus, & Palmer, 2006; Xavier et al., 2015). Further to this, early life trauma and the development of shame tendencies is associated with the risk of engaging in DSH behaviours (Flett et al., 2012; Gilbert et al., 2010; Irons et al., 2006; Milligan & Andrews, 2005; Schoenleber & Berenbaum, 2012; Xavier et al., 2015).

Shame Overview. Shame involves a subjective perception of the self as being flawed, inferior, or deficient (Flett et al., 2012; Gilbert & Andrews, 1998; Gilbert et al., 2010; Nathanson, 1992; Schoenleber & Berenbaum, 2012). It can be conceptualised as a self-conscious emotional experience that may occur following a perceived sense of failure to meet important social standards (Flett et al., 2012). Behaviourally, shame is often expressed by the head facing downwards or to the side, avoiding eye contact, covering the face with hands or clothing, and/or postural changes to make the body appear smaller (M. Z. Brown et al., 2009; Gilbert & Andrews, 1998; Schoenleber & Berenbaum, 2012). Gilbert and Andrews (1998) elaborate further on the concept of shame with a distinction between internal and external shame (Flett et al., 2012; Gilbert et al., 2010; Schoenleber & Berenbaum, 2012). Internal shame is a self-referential process involving negative self-evaluations, especially in terms of

one's ability to meet social expectations and obligations (Gilbert & Andrews, 1998; Gilbert et al., 2010). It comprises beliefs that the self is flawed, defective, or inadequate (Gilbert & Andrews, 1998; Gilbert et al., 2010). External shame results from beliefs that others view the self in a negative manner; such that peers look down upon or degrade the self (Gilbert & Andrews, 1998; Gilbert et al., 2010).

De Hooze, Zeelenberg, and Breugelmans (2010) suggest that shame also activates both restorative and protective behavioural motivations. These motivations interact with the situation to facilitate either approach or defensive based behaviours (De Hooze, Zeelenberg, & Breugelmans, 2010; Nathanson, 1992). Their findings indicate that when experiencing shame, the individual may attempt to fulfil the motive of restoring and protecting a positive self-view by engaging in approach behaviours (De Hooze et al., 2010; De Hooze, Zeelenberg, & Breugelmans, 2011; Nathanson, 1992). This may include engaging in a social activity or attempting to develop a new skill. However, this motive is often rare (Nathanson, 1992). When opportunities to restore the self are deemed too risky, or the person feels they are unable to redeem the self, a more probable response is a reactionary shift to a defensive behavioural motive (De Hooze et al., 2010, 2011; Nathanson, 1992).

Almost all other affective experiences feel better than shame (Nathanson, 1992). Thus in shifting the aversive experience of shame to something less aversive, the individual learns to develop a set of defensive habits that enable a shift away from that distressing affect (Nathanson, 1992). In the case of shame, Nathanson (1992) suggests that these defensive habits (or what he calls behavioural scripts) fall into four major patterns which he has termed the 'Compass of Shame'. Each of the four defensive categories represents a set of strategies that an individual has learned to be an effective method of regulating shame affect (Nathanson, 1992). To this end, Nathanson (1992) suggests that each individual develops a personalised reactionary style in which they favour one or another of these scripts.

One axis of the compass has withdrawal at one end and avoidance at the other. The other pole has attack self at one end and attack other at the other. The withdrawal and attack-self scripts share several important aspects: the conscious recognition of the negative experience (affective, cognitive and physiological) and the conscious internalisation of shame's message that the self has wronged and is deficient or flawed (Elison, Lennon, & Pulos, 2006; Nathanson, 1992). An important difference between the two scripts can be seen in their motivations. Individuals prone to the attack-self script are likely to endure a lower social status, and associated shame, in order to maintain a relationship, whereas those who use the method of withdrawal pull away from others to reduce their discomfort (Elison et al., 2006; Nathanson, 1992). The avoidance and attack-others scripts also share several aspects: the individual is unlikely to acknowledge the negative experience and typically denies (or remains unaware of) shame's message (Elison et al., 2006; Nathanson, 1992). Where the two scripts differ is evident within their motivations. Avoidance is motivated by minimising the experience of shame, or showing oneself to be unaffected by shame, while attack-other involves attempts to make someone else feel bad as a means to boost one's own self-image and externalise their shame experience (Elison et al., 2006; Nathanson, 1992).

The four poles of the compass model can be conceptualised as a state or trait defense system (Nathanson, 1992). As a state experience, shame's defensive strategies may act only briefly or for longer periods. Multiple defense methods can be used as a reaction to a singular shame event (Elison et al., 2006; Nathanson, 1992). In its trait form, poles of the compass used, regularity of use, and potential order of use are shaped by the individual over time (Elison et al., 2006; Nathanson, 1992).

These notions attached to the experience of shame are very powerful and have the potential for incredibly destructive and painful emotional experiences (De Hooe et al., 2011). Schoeleber and Berebaum (2012) also suggest that shame may be pervasive across

time and situation. This means shame may be unique as it renders the individual vulnerable to ever present shame triggers. This is in contrast to similar emotional experiences, such as guilt, which is much more situationally bound and may be much more adaptive. Guilt signals a bad decision or a damaged interpersonal relationship and triggers approach behaviours to restore the damage (Baumeister, Stillwell, & Heatherton, 1994; Schoenleber & Berenbaum, 2012). For example, guilt may result from a poor decision and lead to a subsequent apology. This is an adaptive response designed to repair damage to interpersonal functioning (Schoenleber & Berenbaum, 2012). In contrast shame signals damage to the self and activates varying responses designed to restore and/or protect the self-view (De Hooe et al., 2010, 2011; Nathanson, 1992).

Research posits that formative environmental conditions characterised by a harsh parenting style are predictive of the development of trait shame (Gilbert et al., 2010; Richter et al., 2009; Stuewig & McCloskey, 2005). Such parenting styles include verbal abuse, sexual and physical abuse, and emotional neglect (Gilbert et al., 2010; Richter et al., 2009; Stuewig & McCloskey, 2005). Given shame's connection with early life trauma, theories and evidence regarding shame also suggest that this emotion is uniquely associated with DSH (M. Z. Brown et al., 2009).

Shame and Deliberate Self-Harm. Emerging literature is beginning to identify emotions such as shame as predictive of DSH (M. Z. Brown et al., 2009; Flett et al., 2012; Xavier et al., 2015). Irons and colleagues (2006) have suggested that those who emerge from difficult early life circumstances with a self-critical, shame-filled self-concept are particularly vulnerable to a range of psychopathology including DSH. Further to this, evidence suggests that a self-concept characterised by negative evaluations of the self as defective or flawed can lead to self-punishment (M. Z. Brown et al., 2009; Xavier et al., 2015). This is significant as it suggests that early traumatic experiences contribute to the development of a specific

individual emotional vulnerability associated with increasing the risk of DSH. As mentioned above, those who use DSH as a mechanism of emotion regulation appear to have a reduced capacity for tolerating distressing emotions (Buckholdt et al., 2015; Chapman et al., 2006; Gratz et al., 2016; Laye-Gindhu & Schonert-Reichl, 2005). Accordingly, M. Z. Brown and colleagues (2009) suggest that typical triggers for shame, such as rejection and/or failure, also represent triggers for acts of DSH.

Recent studies have further cemented discourses of shame's association with DSH (M. Z. Brown et al., 2009; Flett et al., 2012; Milligan & Andrews, 2005; Xavier et al., 2015). Xavier, Pinto, Gouveia, and Cunha (2016) examined trait shame's predictive relationship with DSH. Their findings suggest that external and internal shame increases the risk of DSH behaviours. Specifically, individuals who have beliefs that they are seen negatively by peers, who have a tendency for self-criticism, and who have an inability to direct compassion towards the self are at risk of DSH (Xavier et al., 2016). M. Z. Brown and colleagues (2009) examined shame as a prospective predictor of DSH behaviours among persons with Borderline Personality Disorder. Their study was unique in that they measured non-verbal shame behaviours and state emotions, including shame, directly preceding the engagement in DSH via self-report. Their findings partially support state shame as a predictor of DSH behaviours within a clinical population. They found that shame, along with other negative emotions, directly preceding the engagement in DSH partially predicted the behaviour (M. Z. Brown et al., 2009). Collectively these findings underscore shame's predictive link with DSH behaviours. They tentatively suggest those who experience higher rates of trait shame are more likely to experience events in their life that activate state shame triggers. These triggers are known to be associated with engagement in DSH behaviours (M. Z. Brown et al., 2009).

Although the aforementioned evidence suggests shame's association with DSH is that of a precipitant, there is also evidential accounts of shame following acts of DSH (Briere &

Gil, 1998; Flett et al., 2012; Klonsky, 2009; Laye-Gindhu & Schonert-Reichl, 2005; Milligan & Andrews, 2005; Nock, 2010). While many studies have associated DSH consequences with properties of emotional relief, several studies also discuss the negative consequences of this behaviour (Briere & Gil, 1998; Buckholdt et al., 2015; Chapman et al., 2006; Gratz et al., 2016; Klonsky, 2009; Laye-Gindhu & Schonert-Reichl, 2005). Klonsky (2009) examined the functions and affective states both before and after engagement in DSH behaviours. He utilised structured interviews and self-report measures during this process. His findings suggest that DSH effectively modulates distressing emotional experiences preceding the behaviour. However, his findings also indicate that shame is often a consequence of the behaviour for some individuals (Klonsky, 2009). This finding may be explained by M. Z. Brown and colleague's (2009) description of shame and DSH behaviours. They suggest that DSH represents a significant social transgression. Accordingly, Brown and colleagues (2009) posit that a common behavioural expression of shame involves hiding or concealing certain characteristic or behaviours. For this reason those who engage in the behaviour are likely to conceal it from others and experience shame as a consequence (Briere & Gil, 1998; M. Z. Brown et al., 2009).

In summary, the formative environment is known to have a significant influence on shaping individual vulnerabilities such as shame (Gilbert et al., 2010; Gratz et al., 2002; Richter et al., 2009; Stuewig & McCloskey, 2005). Evidence suggests that shame may reflect both a proximal risk factor and a consequence of DSH (M. Z. Brown et al., 2009; Flett et al., 2012; Gilbert et al., 2010; Klonsky, 2009; Milligan & Andrews, 2005; Xavier et al., 2015; Xavier et al., 2016). The phenomenon of dissociation may also reflect a proximal risk factor for DSH. Given the causal relationship between experiences of childhood trauma and the etiology of dissociation, emerging evidence is increasingly suggesting a need for further

investigation into the relationship between dissociation and DSH (Batey et al., 2010; Briere & Gil, 1998; Gratz et al., 2002; Tolmunen et al., 2008; Zoroglu et al., 2003).

Deliberate Self-Harm: Dissociation and Trauma

Comparative to more established causal risk factors, dissociation appears to have a unique relationship with DSH. Specifically, evidence has suggested that dissociation may precede DSH and that the act of deliberately harming oneself serves to ground the individual from the distressing experience of dissociation (Batey et al., 2010; Bracken, Berman, McCloskey, & Bullock, 2008; Briere & Gil, 1998; Farber, 2008; Gratz et al., 2002; Nathanson, 1992). Such individuals may cut or burn themselves until they can feel again, and in general it can be said that many people prefer physical pain to an aversive affective experience (Nathanson, 1992).

Dissociation Overview. As a basic concept, dissociation refers to a discontinuity or a breakdown in the fluid integration of psychobiological systems (Dell & O'Neil, 2009; Farber, 2002, 2008). It manifests a wide range of symptoms which include absorption, amnesia, identity alterations, and a sense of disconnection from the world and/or oneself (derealisation & depersonalisation) (Tolmunen et al., 2008). As a phenomenon dissociation represents a complex and multi-layered occurrence that affects individuals in ways that vary from normative everyday occurrences through to more pathological experiences. However, one commonality which appears to be associated with those who experience the more pathological forms of dissociation is trauma (Dalenberg et al., 2012; Gratz et al., 2002). Dalenberg and colleagues (2012) refer to this association as the trauma model of dissociation (Dalenberg et al., 2012). The model holds that trauma has a unique causative role in the etiology of dissociation. In essence, the model proposes that trauma leads to dissociation through various biopsychosocial mediating/moderating pathways (Dalenberg et al., 2012).

Examples of these include: genetic vulnerabilities, formative environmental conditions, life stress, and psychiatric vulnerabilities.

Trauma itself is an outcome of the nervous system's response to events which are profoundly distressing (Farber, 2002; Farber, 2008). This process fractures the mind's ability to collectively organise information into an autobiographical memory narrative (Farber, 2002; Farber, 2008). Consequently, this dissociative response to a traumatic event may result in a failure to integrate the event-specific information. That is, cognitive, affective, and sensory information associated with the traumatic event may not be processed as it normally would be (Farber, 2002; Farber, 2008). In essence, this dissociative process allows the victim to detach their conscious awareness from the trauma event. This serves to shield them from the distress of the event and possibly protect an attachment with a depended-upon but traumatising perpetrator (Farber, 2008; Nijenhuis, Van der Hart, & Steele, 2010; Platt & Freyd, 2015).

Nijenhuis, Van der Hart, and Steele (2010) refer to this trauma induced division of psychological functions as structural dissociation of the personality (Van der Hart, Nijenhuis, & Steele, 2006). Structural dissociation is suggested to be common in survivors of trauma, especially interpersonal trauma, and involve's a split in aspects of the premorbid personality (Nijenhuis et al., 2010; Van der Hart et al., 2006). The essence of the theory is that traumatic experiences, especially those felt in the formative environment, activate a division in psychobiological action systems which have been evolutionary developed (Nijenhuis et al., 2010; Van der Hart et al., 2006). The division at its most basic level occurs between action systems associated with daily life functions and action systems associated with defense. Nijenhuis and colleagues (2010) describe the collection of the defense action systems as the emotional part of the personality. This system contains the emotional memory of the traumatic experience(s) and engages in defensive behavioural operations. Re-experiencing of

the trauma memory and associated emotions may be activated when this system is triggered (Nijenhuis et al., 2010). The other aspect of the personality, which the researchers named the apparently normal part of the personality, is responsible for day-to-day functionality and survival of the species. Nijenhuis and colleagues (2010) propose that due to the extreme stress associated with this initial division, the two systems remain largely unintegrated. Accordingly, DSH can be used to regulate the dynamic relationship between these dissociative systems, as well as the symptoms that manifest from them.

Dissociation and Deliberate Self-Harm. Dissociation is linked to DSH as a predictor of the behaviour (Batey et al., 2010; Bracken et al., 2008; Briere & Gil, 1998; Farber, 2008; Gratz et al., 2002; Klonsky, 2007; Nijenhuis et al., 2010; Platt & Freyd, 2015; Saxe, Chawla, & Van Der Kolk, 2002; Tolmunen et al., 2008; Zoroglu et al., 2003). It is believed that DSH may serve to terminate distressing dissociative experiences such as absorption, depersonalisation, or derealisation preceding the behaviour (Batey et al., 2010; Klonsky, 2007; Nathanson, 1992; Platt & Freyd, 2015).

As a precipitant to DSH, dissociation has been theorised to be an automatic response to emotional pain associated with negative intrusive thoughts (Batey et al., 2010; Bracken et al., 2008; Kennerley, 1996). Negative intrusive thoughts are those that seem to occur spontaneously, may be prompted by internal or external stimuli, disrupt normal thought processes, cause emotional distress, and are often associated with prior trauma (Batey et al., 2010). In a study conducted by Batey and colleagues (2010) the researchers sought to examine the relationship between self-harm and related vulnerability factors. Collectively their findings support the anti-dissociation discourse of DSH (Batey et al., 2010; Klonsky, 2007). That is, negative intrusive thoughts, and the accompanying distressing affective experience, precipitate dissociation and DSH acts to regulate them (Batey et al., 2010). Consistent with Batey and colleagues (2010), Kennerley (1996) proposes dissociative

reactions may be a conditioned response to negative emotional experiences. That is, certain emotional stimuli may be too aversive to cognitively process, and may instead trigger a conditioned dissociative response (Kennerley, 1996). Kennerley (1996) further suggests that DSH may itself be a conditioned response to the dissociation as it offers a tangible escape from the dissociative experience.

Several lines of research suggest that dissociation may represent a larger risk for females in its relationship with DSH (Bracken et al., 2008; Briere & Gil, 1998; Gratz et al., 2002; Karpel & Jerram, 2015). Laye-Gindhu and Schonert-Reichl (2005) suggest that females are more likely to internalise their distress as well as report higher levels of emotional distress in comparison to males. Consequently, this tendency for internalisation of distress among females may render them more vulnerable to distressing dissociative experiences. However, this theory should be interpreted with caution as the majority of studies examining DSH and associated risk factors have predominantly drawn on female samples (Laye-Gindhu & Schonert-Reichl, 2005). Thus, the true extent to which dissociation poses a risk for male engagement in DSH requires further investigation.

Many studies examining dissociation's causal relationship with DSH have largely drawn on clinical samples made up of inpatient and/or outpatient clinical populations (Low, Jones, MacLeod, Power, & Duggan, 2000; Saxe et al., 2002). Thus a large proportion of existing research is indicative of clinical dissociation representing a risk for DSH. However, dissociation is not a unitary phenomenon and treating it in such a way fails to capture its complex relationship with DSH (Karpel & Jerram, 2015). Accordingly, and in line with this discourse, emerging evidence suggests that normative levels of dissociation may also represent a risk for DSH (Karpel & Jerram, 2015). In a study by Karpel and Jerram (2015) the researchers sought to assess how varying levels of dissociation influence the risk for engaging in DSH. They hypothesised that taxonomic levels of dissociation (normative,

clinical, and severely clinical) would represent increasing levels of risk for the behaviour. Counterintuitive to existing research, Karpel and Jerram's (2015) findings did not support their hypothesis. Their findings were not statistically significant for pathological groups of dissociation and their association with DSH (Karpel & Jerram, 2015). However, normative dissociation was found to be significantly associated with DSH (Karpel & Jerram, 2015). Given prior research that has identified links between dissociation, trauma, and DSH, it was expected that pathological, rather than normative, dissociation would predict DSH. However, the lack of significance found within the pathological dissociation groups may have been due to the low numbers within them (Karpel & Jerram, 2015). Nonetheless, this finding is of clinical importance as it illustrates dissociation's relationship with DSH is not bound to pathological forms of the phenomena. It suggests that even normative experiences of dissociation may predict engagement in risky behaviours such as DSH.

The Proposed Quartile Risk Model for Predicting Deliberate Self-Harm

As a consequence of Karpel and Jerrams (2015) unexpected findings, the researchers have proposed a new approach to predicting the risk of engagement in DSH based on experienced levels of dissociation. The quartile risk model was developed to represent the complex layers of dissociation and their relationship to the risk for DSH behaviours. The model is made up of four levels of dissociative severity: low normative, high normative, low clinical, and high clinical. The quartiles represent a broad range of dissociative experiences and are aligned with scores produced by the Dissociative Experiences Scale (DES) (Carlson & Putnam, 1993). The first quartile, low normative dissociation, ranges from 0 to 15 on the DES. It is representative of minimal-to-moderate normative dissociation experienced by an individual. Reflective dissociative experiences within this quartile would likely be daydreaming, "highway hypnosis", and becoming temporarily absorbed in an activity. The

researchers suggested that the first quartile of the model is predictive of low risk for DSH as there is very little distress experienced (Karpel & Jerram, 2015).

The second quartile, high normative dissociation, ranges from 15 to 30 on the DES. It is representative of moderate-to-high normative levels of dissociation (Carlson & Putnam, 1993). Karpel and Jerram (2015) propose this increases the risk for DSH but does not meet clinical levels of dissociation. Dissociative experiences within this quartile may include sustained absorption, feelings of numbness or emptiness, and derealisation/depersonalisation. The researchers suggest that those experiencing significant distress may develop higher rates of normative dissociation than usual, but not enough to adequately buffer the person from their distressing experience (Karpel & Jerram, 2015). Karpel and Jerram (2015) suggest the risk for DSH would increase for those within this quartile as the dissociation would not effectively buffer the impact of the distress.

The third quartile, low clinical dissociation, ranges from scores of 30 to 45 on the DES. This quartile is reflective of low-to-moderate clinical dissociation and represents dissociative experiences such as peri-traumatic amnesia, trauma-related flashbacks and cognitive intrusions. Of note, the researchers suggest that this quartile actually represents a protective factor against the risk of DSH. They suggest that although the individual is likely to experience distress at this level, the dissociative experience would limit the person's integration of distressing emotional information (Karpel & Jerram, 2015). The result of this may limit the impact of the experience and protect the person from their distress (Karpel & Jerram, 2015).

The fourth quartile represents high clinical dissociation and ranges in scores on the DES of 45 and over. This final quartile of the model is reflective of moderate-to-severe clinical levels of dissociation. Probable dissociative experiences fitting within this final

quartile may be frequent experiences of amnesia, disrupted sense of self, and fragmented experiences. The researchers suggest that this quartile increases the risk of DSH because the individual would have likely experienced extensive and severe childhood trauma (Karpel & Jerram, 2015). They hypothesise that dissociation would not sufficiently buffer someone with long-term distress from the emotional effects and risks associated with that trauma. Accordingly, Karpel and Jerram (2015) suggest that the experience of dissociative phenomena in this quartile would actually increase distress and the person may seek DSH as a method to regulate the emotional experience.

In summary, Karpel and Jerram (2015) posit a higher risk of engagement in DSH behaviours for those experiencing levels of dissociation that fit within the second and fourth quartiles of the model. In comparison, they suggest that the first and third quartiles of the model represent a decreased risk of DSH, relative to the second and fourth quartiles.

Overall Summary

DSH is a behaviour that serves many functions, with the greater part of existing evidence reinforcing the function of modulating distressing emotions (Buckholdt et al., 2015; Chapman et al., 2006; Gratz et al., 2016; Klonsky, 2007; Laye-Gindhu & Schonert-Reichl, 2005). That is, DSH may represent a deficient ability to implement more adaptive strategies of emotion regulation (Briere & Gil, 1998; Buckholdt et al., 2015; Chapman et al., 2006; Gratz, 2003; Gratz et al., 2016; Linehan, 1993). Of the risk factors associated with DSH, shame and dissociation are emerging within literature as predictive of the behaviour (Tolmunen et al., 2008; Xavier et al., 2015).

Irons and Colleagues (2006) have suggested that a traumatic formative environment contributes to the development a shame filled self-concept. Accordingly, evidence posits that a self-concept characterised by negative self-evaluations (shame) puts an individual at risk of

DSH behaviours (M. Z. Brown et al., 2009; Xavier et al., 2015). It appears that the development of trait shame leaves the individual more vulnerable to triggers that activate shame (M. Z. Brown et al., 2009). These triggers are known to be associated with subsequent DSH acts (M. Z. Brown et al., 2009). There is also evidential accounts of shame activation as a consequence of DSH (Briere & Gil, 1998; Klonsky, 2009; Laye-Gindhu & Schonert-Reichl, 2005). As the behaviour represents a breach of many social and cultural norms, those who utilise DSH behaviours may well experience shame as it denotes a social transgression (Briere & Gil, 1998; M. Z. Brown et al., 2009).

Dissociation's relationship with DSH appears to differ relative to other risk factors. It is believed that DSH may disrupt frightening dissociative experiences (Batey et al., 2010; Klonsky, 2007; Nathanson, 1992; Platt & Freyd, 2015). Evidence suggests that dissociation is an automatic response to distressing affective experiences, such as shame affect, triggered by distressing intrusions (Batey et al., 2010). This dissociative response may be so disconcerting to the individual that they utilise the maladaptive strategy of DSH in order to regulate both shame and dissociation.

The Current Study

The current study set out to test the validity of the proposed quartile risk model for predicting DSH behaviours. Within this model, dissociation is suggested to predict DSH risk in staged functions (Karpel & Jerram, 2015). As well as examining the validity of this model, the study investigates shame's predictive association with DSH. If consistent with existing research (Briere & Gil, 1998; Gilbert et al., 2010; Klonsky, 2007; Milligan & Andrews, 2005; Schoenleber & Berenbaum, 2012), the presence of shame would be expected to increase alongside levels of DSH. The following hypotheses were generated in response to these research aims:

- 1) Participants within the first and third quartiles of dissociation severity would demonstrate lower levels of deliberate self-harm behaviours than those in the second and fourth quartiles.
- 2) Higher levels of DSH would be associated with higher levels of shame.

Method

Participants

Participants were 322 undergraduate students from the University of Canterbury. Of these participants, 60 were excluded due to their non-completion of the survey, a further 15 participants were excluded as a result of their answers to two validity questions, leaving a total of 247 participants in the final analysis. Of the 247 participants, 205 volunteered as part of the first year undergraduate psychology research participation pool, and were rewarded for their participation with course credit. The remaining 42 participants were recruited via emails circulated around the second and third year psychology student population, or by flyers posted around the university campus (see Appendix A). The study was advertised as research validating a new model that predicts the risk of engaging in different behaviours. This approach was taken in an attempt to prevent a sample predominantly made up of individuals who engage in DSH behaviours. The University of Canterbury Ethics Committee granted ethical approval for the current study prior to the recruitment of participants (see Appendix B).

Of the 247 participants, 79.4% ($n = 196$) were female, 20.2% ($n = 50$) were male, and 0.4% ($n = 1$) identified as other. The age of participants ranged from 16 to 56 years, with a mean age of 20.17 years ($SD = 4.857$). Of the 247 participants, 49.8% ($n = 123$) indicated that they have experienced difficulties with their mental health either currently or in the past, 45.3% ($n = 112$) did not endorse any experienced mental health difficulties, and 4.9% ($n = 12$) identified a preference of non-disclosure. Ninety-eight participants endorsed having experienced a mood disorder, 67 endorsed experiencing anxiety disorders, seven endorsed an eating disorder, seven endorsed trauma disorders, three endorsed personality disorders, one endorsed a neurodevelopmental disorder, and one endorsed gender dysphoric disorder.

Measures

Participants were initially presented with a short questionnaire, consisting of six questions, concerning demographic information (age, sex, University of Canterbury undergraduate student confirmation, marital status, mental health history, and psychological medication history) (see Appendix C). Following this, participants were presented with three questionnaires measuring (a) dissociation, (b) shame, and (c) self-harm behaviours. As a means of quality assurance, at the end of the survey participants were asked to indicate how thoroughly they had answered the questions within the survey. Participants did so by choosing from the following three statements: “I have read each question and chose the best possible answer”, “I skimmed the questions and picked an answer that was somewhat right” or “I lost concentration, did not read all the questions properly, and I just picked the answers randomly”. Participants who did not select “I have read each question and chose the best possible answer” were excluded from the final analyses ($n = 13$).

In addition to this, a test question was included at the end of the shame scale to determine how accurately the participants had read the questionnaire to that point. This question was presented in the following way: “If you have read this question properly, please select ‘Very much’ as your answer”. Respondents were presented with the following answers to choose from: “Not at all”, “A little”, “Moderately”, and “Very much”. Participants who did not select “Very much” were excluded from the final analyses ($n = 2$).

All questionnaires were presented and completed online using Version 28611 of Qualtrics Survey Software (2011). Questionnaire responses and layout were kept identical to original paper versions (see Appendices C.2-C.4).

The Dissociative Experiences Scale – Second Edition (DES) (Carlson & Putnam, 1993). The DES was developed to serve as a clinical and research tool to help identify dissociative experiences and symptoms (Carlson & Putnam, 1993). The scale has been conceptualised as a measure of trait dissociation as it enquires about the frequency of dissociative experiences in everyday life (Carlson & Putnam, 1993). It is a brief, 28 item, self-report instrument that measures the frequency of a variety of dissociative phenomena; such as absorption, amnesia, depersonalisation, derealisation, and gaps in awareness.

In addition to this, eight items within the DES have been found to measure clinical forms of dissociation (Carlson & Putnam, 1993; Waller, Putnam, & Carlson, 1996). Specifically, the scale focuses on pathological manifestations of dissociation, such as amnesia, depersonalization, and derealisation (Carlson & Putnam, 1993; Waller et al., 1996). This subscale is referred to as the Dissociative Experiences Scale – Taxon (DES-T) (Carlson & Putnam, 1993; Waller et al., 1996). During administration, participants are instructed to consider how often the described phenomena occur when they are not under the influence of alcohol or drugs. They are then instructed to select a number from 0% (This never happens to you) to 100% (This is always happening to you) to represent what percentage of time each example occurs for them. The overall score is obtained by adding up the 28 items and then dividing by 28, thus providing a total mean score ranging from 0-100. The DES uses a cut-off score of 30 or above to identify clinical levels of dissociation from normative dissociation (Waller & Ross, 1997). The psychometric qualities of the DES have been demonstrated in a number of studies that yielded evidence of high reliability: test-retest reliability ranging from 0.79 to 0.84 (Bernstein & Putnam, 1986; Frischholz et al., 1990; Ptiblado & Sanders, 1991), and good internal reliability (Cronbach's $\alpha = 0.95$) (Frischholz et al., 1990). Convergent validity for the DES has also been established: Nadon, Hoyt, Register, and Kihlstrom (1991)

reported a Pearson correlation of 0.82 between the DES-II and the Perceptual Alteration Scale (another dissociative measure).

Although the DES can be used for both clinical and non-clinical populations, caution with the interpretation of non-clinical populations is advised (Carlson & Putnam, 1993). This is because non-clinical subjects typically demonstrate small meaningful differences and score in a fairly narrow range, at the lower end of the scale. It was used in this study to measure everyday experiences of trait-based dissociation in both clinical and non-clinical participants.

The Self-Injury Questionnaire (SIQ) (Alexander, 1999). The SIQ is a 32 – item self-report instrument that measures a broad spectrum of behaviours that influence the body, as well as the reasons for engaging in the behaviours. The spectrum of behaviours encompasses body alterations such as body piercings and tattoos, indirect harmful behaviours such as smoking tobacco and fasting (questions 1 – 19), failure to care for oneself such as engaging in unprotected sex, and overt self-injury (questions 20 – 31) which includes purposefully cutting or burning the body (Alexander, 1999). A total score for the overall (SIQ Total), indirect (SIQ Indirect), and overt (SIQ Overt) subscales represents the total amount of harmful behaviours that the participant engaged in for that subscale.

Participants are instructed to indicate the most frequent (if at all) they have engaged on purpose in the 32 different behaviours. Participants do this by selecting from a 7-point likert scale in which 1 = never, 2 = once/twice ever, 3 = couple of times a year, 4 = once/twice a month, 5 = once/twice a week, 6 = several times a week, and 7 = daily (Alexander, 1999). If a participant indicates that they have engaged in any of the 32 harmful behaviours, regardless of the frequency, they are then referred to a list of 30 motivation items explaining that behaviour. Participants are instructed to select all the motivation items applicable, from the list, that explain why they performed that specific harmful behaviour.

The 30 motivation items in the list fall into 15 overarching reason categories (Alexander, 1999). These categories are broad spectrum, and include neutral explanations (for fun) as well as more emotionally charged reasons (to sight blood, regulation of feelings, and self-punishment) (Alexander, 1999). If none of the motivations explain why the participant has engaged in the behaviour, they can select “other”. In this situation participants would be instructed to detail, in their own words, the reasons for engaging in the harming behaviour. Alexander (1999) verified the measure’s psychometric properties, demonstrating high test-retest reliability ($r = 0.91$), as well as good face and predictive validities. Similar findings were produced by Mina and colleagues (2006) who found that the measure had strong internal consistency ($\alpha = 0.83$), as well as significant associations with other standardised self-harm measures (Mina et al., 2006).

The Experience of Shame Scale (ESS) (Andrews, Qian, & Valentine, 2002). The ESS is a brief, 25-item, self-report instrument that measures a participants disposition to experience shame (trait shame). Specifically, it measures four areas of characterological shame (shame of personal habits, manner with others, sort of person you are, and personal habits), three areas of behavioural shame (shame about doing something wrong, saying something stupid, and failure in competitive situations), and bodily shame (feeling ashamed of your body or any part of it). Participants are instructed to consider how often the described experiences have occurred in the last year (Andrews et al., 2002). Participants responses are rated on a 4-point scale, ranging from (1) Not at all, (2) a little, (3) moderately, (4) or very much. The 25 items yield a scoring range of 25-100. The psychometric properties of the ESS demonstrate high internal consistency (Cronbach’s $\alpha = 0.92$), as well as good test-retest reliability (11 weeks was $r = 0.83$) (Andrews et al., 2002). Good support for construct and discriminant validity was also found (Andrews et al., 2002).

A brief measure of state shame was embedded into the Self-Injury Questionnaire as a way to compare self-reported state shame before and after harmful behaviours. When participants selected that they had engaged in a harmful behaviour, within the self-injury questionnaire, they were then directed to a rating scale measuring state shame before engaging in the selected harmful behaviours. This question was presented in the following way: “Before engaging in this behaviour did you feel worthless, less than others, or ashamed?” Participants selected from one to seven on a rating scale, with one being equivalent to “*none*” and seven to “*extremely*”. The second part of the self-injury question, identifying motivations, was then completed and participants were once again directed to answering another state-shame question. This question measured self-reported state shame as a consequence to the selected harmful behaviour. This question was presented in the following way: “After engaging in this behaviour did you typically experience any feelings of worthlessness, undesirability, or disgust within yourself?” Participants were then asked to answer this using the same rating scale described above.

Procedure

Participants volunteered for the study by following a website link displayed on the advertising material. The link initially directed participants to the information sheet (see Appendix D) outlining the requirements of the study, followed by the consent process which noted, “By clicking “Next” I agree to participate in this study and I understand what is required of me as part of this” (see Appendix E). If any participant withdrew early from the survey, they could redirect themselves back to the support services on the information sheet by clicking the “back” button, if they needed them. Participants then completed a demographic questionnaire addressing their age, gender, relationship status, and history of mental health difficulties. Following this, participants were directed to the dissociation, shame, and DSH scales. These instruments were administered in that order.

Prior to leaving the survey, those recruited through the undergraduate psychology participant pool were required to leave their student ID number in order to receive course credit. Those participants not a part of the first year psychology research pool could go in the draw to win a voucher for their participation. Upon completion of the study, they were required to leave their email addresses to enter the draw. Participants were reminded that their questionnaire responses would not be connected to their personal contact details in any way. Following this, the participants were provided with debrief information (see Appendix F). The debrief form contained information detailing the aims of the research, the measures used, expected findings, and potential clinical and research implications. The form also acknowledged that some of the survey content may have been distressing for some participants, and further information was provided for contacting support services if needed. Additionally, the researchers contact details were provided, and participants were encouraged to make contact with them if they had any questions or concerns.

Data Analysis

All data gathered was coded and analysed using IBM SPSS (Version 22.0) for Windows. Statistical significance was set at the $p = <.05$ level and Games-Howell tests were reported where post hoc comparisons were utilised. This particular post hoc procedure was chosen as it is accurate when sample sizes are unequal (Field, 2013). Initial analysis of demographic data was carried out to determine if any significant differences existed across the dissociation quadrants. A one-way between subjects Analysis of Variance (ANOVA) and Chi-Squared analyses were used to examine differences across groups for demographic variables (e.g., age, gender).

Based on Karpel and Jerram's (2015) quartile risk model, participants were grouped across four quadrants of dissociation. This distribution was determined by their scores on the

DES. However, Karpel and Jerram's (2015) proposed model did not specify clear DES cut-off scores between each dissociation group, instead they allowed for a degree of crossover between each quadrant (for example: quadrant one = 0 to 15, quadrant two = 15 to 30). The current study did not utilise this same crossover between groups and instead definitively separated participants into orthogonal quadrants. Thus, scores of 0 to 15 on the DES placed participants within the first quartile (low normative), scores of 16 to 30 placed participants within the second quartile of dissociation (high normative), scores of 31 to 45 placed participants within the third quartile (low clinical), finally scores of 46 and over placed participants within the fourth quartile (high clinical).

For measures of dissociation (DES and DES-T), a one-way Multivariate Analysis of Variance (MANOVA) was conducted across the quadrants. One-way ANOVA's were used to examine differences for harmful behaviours (SIQ) and shame (ESS).

The proportion that each reason category from the SIQ Overt scale was endorsed was calculated by summing the reasons over all overt harmful behaviours ($n = 11$), then dividing by the SIQ Overt total score, before finally dividing by the number of motivation items in the specific reason category. These scores were then multiplied by the number of participants who endorsed each reason category to give a weight proportion of endorsement. Descriptive statistics were presented, no further analyses were utilised due to the make up of the data preventing the use of inferential statistics.

A (two-tailed) paired t-test was conducted for state shame scores before and after engaging in harmful behaviours. In an additional analysis of shame's relationship with harmful behaviours, correlation coefficients were calculated between shame and SIQ measures (SIQ Indirect, SIQ Overt), and the weights of these coefficients was compared.

Finally, a multiple regression model was used to examine whether or not the relationship between trait shame and harmful behaviours was moderated by dissociation.

Results

Demographic Descriptive Statistics

Table 1 presents the descriptive statistics across the four dissociation quadrants for age, gender, relationship status, mental health difficulties and medication use. A one-way between subjects ANOVA showed no significant differences across quadrants for age, $F(1,3) = 0.64$, $p = 0.59$, $h_p^2 = .008$. With regard to the gender make up across quadrants, only one person identified as ‘other’ and they fell within the high dissociation quadrant. This participant was temporarily removed in order to conduct a Chi-Square analysis on gender across the four quadrants. They were not excluded from the rest of the data analysis. A Chi-Square analysis showed a non-significant trend, $\chi^2(3) = 7.75$, $p = .052$. To further explore this trend, six two-by-two Chi-Squared analyses were conducted comparing each quadrant with the other quadrants. Comparisons between quadrants one and two showed a non-significant trend, $\chi^2(1) = 3.76$, $p = .055$.

Table 1

Demographic Descriptive Statistics.

Dissociative Quadrants		Quadrant 1	Quadrant 2	Quadrant 3	Quadrant 4	Overall
Age	Mean	20.56	20.10	19.52	19.43	20.17
	SD	5.49	3.82	5.38	3.23	4.85
Gender	Male	32	11	3	4	50
	Female	85	61	32	18	196
	Other				1	1
Relationship Status	Single	70	39	24	12	145
	Partner	45	30	11	10	96
	Married	2	3	0	1	6
Mental Health Difficulties	Yes	44	39	21	19	123
	No	70	29	9	4	112
	No reply					12
Medication Use	Yes	12	12	4	8	36
	No	32	27	17	11	87

Note. SD = Standard Deviation

Quadrants one and three showed a significant difference in gender, with the ratio of females to males lower in the normative quadrant compared to the low clinical quadrant, $\chi^2(1) = 5.36, p = .021$. No other significant differences were found for gender.

With regard to the relationship status across the quadrants, only six participants selected ‘married’, this category was represented in all categories except quadrant 3 (see Table 1.). These participants were temporarily removed in order to conduct a Chi-Square analysis on the other relationship statuses across the four quadrants. They were not excluded from the rest of the data analysis. Analysis showed no significant differences for these relationship statuses, $\chi^2(3) = 1.73, p = .63$.

In relation to mental health status, a Chi-Square analysis showed significant differences across the quadrants, $\chi^2(3) = 21.51, p < .001$. Post-hoc Chi-Square analyses showed a greater likelihood of having versus not having mental health difficulty in quadrant two than quadrant one, $\chi^2(1) = 6.04, p = .01$. Comparisons between quadrants one and three showed a greater probability of having versus not having a mental health problem in quadrant three, $\chi^2(1) = 9.46, p = .002$. Quadrant four showed a similar pattern of results, when compared to quadrant one, $\chi^2(1) = 14.92, p < .001$. Finally, a comparison between quadrants two and four showed a greater likelihood of having versus not having mental health difficulty in quadrant four compared to quadrant two, $\chi^2(1) = 4.74, p = .029$. No other differences were significant. With regard to medication use, analysis showed no significant differences in the proportion of participants who did and did not use medication across the quadrants, $\chi^2(3) = 2.71, p = .44$.

Harmful Behaviours and Gender

Table 2 presents the average scores for measures of harmful behaviours across genders. The one person who identified as ‘other’ within the sample was temporarily removed in order to conduct a one way between subjects ANOVA on gender across the SIQ

measures. They were not excluded from the rest of the data analysis and their mean scores are included in table 2. A one way between subjects ANOVA was conducted to determine if any significant differences existed between the males and females for SIQ Total scores. No significant effect was found, $F(1,244) = 2.85, p = 0.92, h_p^2 = .012$. This findings suggests that there was no significant differences between males and females in the SIQ Total scores. A one way between subjects ANOVA showed a main effect for SIQ Indirect across gender,

Table 2

Mean Scores for Measures of Harmful Behaviour Across Genders

Gender	Means Scores for SIQ Measures		
	SIQ Total	SIQ Indirect	SIQ Overt
Female ($n = 196$)	8.40 (SD 5.32)	5.65 (SD 3.73)	2.64 (SD 2.49)
Male ($n = 50$)	7.06 (SD 3.55)	4.40 (SD 2.33)	2.62 (SD 1.97)
Other ($n = 1$)	21.00	11.00	9.00

Note. SD = Standard Deviation

$F(1, 244) = 5.118, p < .025; h_p^2 = .021$. Significantly more females engaged in indirect forms of harmful behaviours than males. A one-way between subjects ANOVA on SIQ Overt scores across gender showed a non-significant effect, $F(1,244) = .004, p = 0.952, h_p^2 = .000$. This finding suggests that there was no significant difference between males and females in the SIQ Overt scores.

Taken together, these findings suggest that males and females only differed in their engagement in indirect forms of harmful behaviours. Females engaged in more forms of this harmful behaviour relative to males. However, they did not differ in their engagement in overall (SIQ Total) and overt forms (DSH) of harmful behaviours.

Test of Hypothesis One - Does the Quartile Risk Model Predict Engagement in Harmful Behaviours, and Assessment of Other Questionnaire Measures

Table 3 presents the average scores for the four dissociative quadrants across measures of dissociation (DES and DES-T), self-injury (SIQ Total, SIQ Indirect, and SIQ Overt), and Shame (ESS Total, ESS Characterological Shame, ESS Behavioural Shame, and ESS Bodily Shame). To ensure the quadrants were statistically differentiating those with different levels of dissociation, a one-way Multivariate Analysis of Variance (MANOVA) was conducted to test whether differences existed across the four quadrants on the dissociation measures (DES and DES-T). There was a significant multivariate effect, Pillai's Trace = 1.08; $F(6,486) = 95.46, p < .001$; $\eta_p^2 = .541$. The univariate ANOVA's showed that both the DES, $F(3,243) = 811.07, p < .001$; $\eta_p^2 = .909$, and DES-T, $F(3,243) = 323.56, p < .001$; $\eta_p^2 = .80$, scores significantly differed across the dissociation quadrants. A Games-Howell post-hoc procedure was utilised to further explore these findings. As expected, DES scores significantly increased from one quadrant to the next ($p < .001$). For DES-T scores, all dissociation quadrants progressive increased in scores ($p < .001$). These results indicate that DES scores significantly differed across the quadrants and increased in a general linear trend.

As a test of hypothesis one, a one-way ANOVA was conducted to examine differences in the SIQ Total across the dissociative quadrants. There was a main effect for SIQ Total scores across the dissociative quadrants, $F(3,243) = 9.80, p < .001$; $\eta_p^2 = .108$. Games-Howell post-hoc analysis revealed that the difference from low normative to low clinical quadrants was statistically significant ($p = .02$), as well as the difference from low normative to high clinical quadrants ($p = .001$). No other differences were significant. A one-way ANOVA on SIQ Indirect scores across the dissociative quadrants, showed a main effect

Table 3

Mean and Standard Deviation Scores for Measures for Low Normative (n = 117), High Normative (n = 72), Low Clinical (n = 35) and High Clinical (n = 23) Quadrants; (N = 247)

Measures	Dissociative Quadrant	Mean	Standard Deviation
DES	Low Normative	8.50	4.02
	High Normative	22.78	4.38
	Low Clinical	36.52	4.51
	High Clinical	57.48	9.10
	Overall	21.20	16.04
DES Taxon	Low Normative	3.87	4.06
	High Normative	13.09	6.75
	Low Clinical	23.14	7.40
	High Clinical	50.87	14.41
	Overall	13.66	15.33
SIQ Total	Low Normative	6.81	3.94
	High Normative	8.31	5.11
	Low Clinical	9.89	5.61
	High Clinical	12.17	6.70
	Overall	8.18	5.10
SIQ Indirect	Low Normative	4.87	3.21
	High Normative	5.43	3.71
	Low Clinical	5.97	3.72
	High Clinical	7.35	4.03
	Overall	5.42	3.53
SIQ Overt	Low Normative	1.86	1.85
	High Normative	2.78	2.32
	Low Clinical	3.80	2.50
	High Clinical	4.65	3.31
	Overall	2.66	2.42
ESS Total	Low Normative	59.88	16.04
	High Normative	71.56	14.92
	Low Clinical	79.21	13.34
	High Clinical	84.71	14.41
	Overall	68.24	17.54
ESS Characterological Shame	Low Normative	25.96	8.05
	High Normative	32.22	8.35
	Low Clinical	36.29	7.81
	High Clinical	39.65	8.16
	Overall	30.52	9.40
ESS Behavioural Shame	Low Normative	23.61	6.60
	High Normative	27.74	5.55
	Low Clinical	30.14	5.19
	High Clinical	31.09	4.83
	Overall	26.43	6.59
ESS Bodily Shame	Low Normative	10.21	3.93
	High Normative	11.50	3.63
	Low Clinical	12.74	3.38
	High Clinical	13.91	3.03
	Overall	11.29	3.88

for SIQ Indirect scores, $F(3,243) = 3.611, p = .01; h_p^2 = .043$. Games-Howell post-hoc analysis revealed that the low normative quadrant had significantly less indirect harmful behaviours than the high clinical dissociative quadrant ($p = .04$). No other significant differences were found. A one-way ANOVA on SIQ Overt scores showed a main effect across the dissociative quadrants, $F(3,243) = 13.951, p < .001; h_p^2 = .147$. Games-Howell post-hoc analysis revealed a general linear increase, with significantly more overt DSH from one quadrant to the next (i.e., low normative to high normative, $p = .027$; high normative to low clinical quadrant, $p = .001$; low clinical to high clinical, $p = .003$). Thus, the current findings do not appear to support hypothesis one.

A one-way ANOVA on ESS Total scores across quadrants showed a main effect, $F(3, 243) = 28.107, p < .001; h_p^2 = .258$. Games-Howell analysis further revealed that significant differences existed between almost every quadrant (i.e., low normative to high normative, $p < .001$; low normative to low clinical, $p < .001$; low normative to high clinical, $p < .001$; high normative to low clinical, $p = .042$; high normative to high clinical, $p = .003$), except between low clinical and high clinical dissociative quadrants ($p = .47$). No other significant differences were found. A one-way ANOVA on ESS Characterological Shame scores across the dissociative quadrants showed a main effect for ESS Characterological Shame, $F(3,243) = 28.971, p < .001; h_p^2 = .263$. Games-Howell analyses revealed that the low normative dissociative quadrant was significantly lower than the high normative ($p < .001$), low clinical ($p < .001$), and high clinical quadrants ($p < .001$). High normative was significantly lower than the high clinical quadrant ($p = .001$). No other significant differences were found. For ESS Behavioural Shame scores a one-way ANOVA revealed a main effect across the quadrants, $F(3,243) = 19.049, p < .001; h_p^2 = .19$. The low normative dissociative quadrant was significantly lower than the high normative ($p < .001$), low clinical ($p < .001$), and high

clinical quadrants ($p < .001$). No other significant differences were found. A one-way ANOVA on ESS Bodily Shame across the dissociative quadrants showed a main effect, $F(3,243) = 9.036, p < .001; \eta_p^2 = .1$. The low normative dissociative quadrant was significantly lower than the low clinical ($p < .002$), and high clinical quadrants ($p < .001$). The high normative quadrant was significantly lower than the high clinical quadrant ($p < .015$). No other significant differences were found.

These results generally suggest that the different measures of shame displayed a general increase across the four dissociative quadrants. That is, as dissociation increased across the quadrants, the levels of shame increased concurrently.

Motivations for DSH Behaviours

Table 4 presents the descriptive statistics for DSH motivations (reason categories) across the SIQ Overt scale. The table is presented in descending order with the highest weighted average proportional endorsement at the top. The self-punishment and regulation of feelings reason categories had the highest average weighted proportional endorsements, as well as the highest number of participants who endorsed the two categories. Communication with others followed these two categories, but did not have the equal highest number of participants endorse this reason category. Protection of others, re-enactment, and suicide attempts had the lowest weighted average proportional endorsements, as well as the lowest number of participants who endorsed those categories.

Table 4*Descriptive Statistics: SIQ Reason Categories*

Reason Categories	<i>n</i>	Weighted Mean	Standard Deviation
Self-Punishment	138	75.95	37.63
Regulation of Feelings	141	50.60	32.40
Communication with Others	141	37.52	22.49
Tension Reduction	89	32.72	19.30
Restoration of Reality	70	25.33	15.88
Sight of Blood	58	25.31	16.74
Fun	45	20.50	12.67
Avoidance of Reality	57	18.51	18.51
Avoidance of Suicide	40	15.61	10.30
Power/Control	49	12.15	9.42
Arousal/Stimulation	50	11.94	7.06
Social Influence	13	4.12	3.16
Suicide Attempt	14	2.99	1.44
Re-enactment	6	2.59	2.64
Protection of Others	3	2.18	1.42

Note. Weighted Mean = Average proportion that each reason category was endorsed, weighted by the number of participants who endorsed each reason category; *n* = Number of participants within each reason category.

Test of Hypothesis Two – Higher Levels of Harmful Behaviours are Associated with Higher Levels of Shame

As an initial test of hypothesis two, state shames scores before and after engaging in harmful behaviours were compared. Scores ranged from one (*None*) to seven (*Extremely*).

Table 5 presents the average self-reported state shame scores and paired correlations. A (two-tailed) paired t-test was conducted to determine whether significant differences existed between the pairs. No significant difference was found for pair one (SIQ Total), $t(240) = -1.49, p = .135$. With regard to pair two (SIQ Indirect), a significant difference was found, $t(232) = -3.94, p < .001$, and suggests that a greater degree of shame is experienced after indirect harmful behaviour relative to before the behaviour. A significant difference was also

found for pair three (SIQ Overt), $t(200) = 2.59, p < .010$, and contrary to previous findings it suggests that a greater level of shame is experienced before overt harmful behaviour (DSH) relative to after. In relation to pair four (SIQ Indirect – SIQ Overt before), a significant difference was found, $t(194) = -9.91, p < .001$. This finding suggests that greater levels of shame are experienced before engaging in overt harmful behaviours relative to indirect forms. Finally, pair five (SIQ Indirect and SIQ Overt after) also demonstrated a significant difference, $t(192) = -7.42, p < .001$. This finding suggests that those who engage in the overt forms of harmful behaviour are likely to experience greater levels of shame as a consequence to the behaviour relative to those who engage in the indirect forms of the behaviour.

Table 5

Mean Scores and Pair Correlations for State Shame Before and After Harmful Behaviours

Pairs	Shame Measure		Mean Scores	SD	Correlation Coefficient
1	SIQ Total Shame	Before	2.86	1.55	.868
	Before and After	After	2.94	1.43	
2	SIQ Indirect Shame	Before	2.52	1.48	.840
	Before and After	After	2.73	1.37	
3	SIQ Overt Shame	Before	3.85	2.11	.763
	Before and After	After	3.60	1.89	
4	SIQ Indirect Shame	Indirect Before	2.52	1.48	.587
	Before and Overt Shame Before	Overt Before	3.85	2.11	
5	SIQ Indirect Shame After	Indirect After	2.73	1.37	.657
	and Overt Shame After	Overt After	3.60	1.89	

Note. SD = Standard deviation

These results suggest that higher levels of state shame are likely to be experienced both before and after engaging in overt forms of harmful behaviours relative to indirect forms. Further, higher levels of shame are likely to be experienced before engaging in overt forms of harmful behaviour relative to after. For indirect forms of harmful behaviours, higher levels of shame are likely to be experienced following engagement in these harmful behaviours relative to before engaging in them. Thus, the current findings appear to support hypothesis two.

Measures of Trait Shame and Harmful Behaviours. Table 6 presents the correlation coefficients for measures of shame and harmful behaviours. To further examine shame's relationship with harmful behaviours, the correlation coefficients were compared to determine whether measures of harmful behaviours were significantly different from one another for each measure of shame. A comparison between correlations of SIQ Indirect and SIQ Overt with ESS total demonstrated a significant difference ($p = .003$). This suggests the correlation between ESS total and SIQ Overt is significantly larger than SIQ Indirect. The comparison between ESS characterological and SIQ measures also demonstrated a significant difference ($p < .001$), suggesting the correlation between SIQ Overt and ESS characterological is larger than that between ESS characterological and SIQ Indirect. For ESS behavioural, the correlation with SIQ Overt was significantly larger than with SIQ Indirect ($p < .001$). Lastly, a comparison of correlations between ESS bodily and the SIQ measures did not demonstrate a significant difference ($p = .08$).

Table 6

Correlation Coefficients for Measures of Shame and Harmful Behaviours

Experience of Shame Scale	SIQ Indirect	SIQ Overt
ESS Total	.244**	.430**
ESS Characterological	.215**	.449**
ESS Behavioural	.144*	.374**
ESS Bodily	.338**	.223**

Note. ** $p < 0.01$, two tailed. * $p < 0.05$ level, two tailed.

These findings suggest that significantly more overall, characterological, and behaviour shame is experienced by those who engaged in overt forms of harmful behaviours relative to those who engaged in the indirect forms. These findings lend further support to hypothesis two.

Interactions: Shame, Dissociation, and Deliberate Self-Harm

The lack of support for hypothesis one, and the heightened shame before overt DSH, raises the question of whether dissociation and shame may in fact interact to produce more or less engagement in harmful behaviours. Accordingly, a multiple regression model was utilised to investigate whether the association between trait shame and engaging in harmful behaviours was moderated by dissociation. For the overall harmful behaviours (SIQ Total), results indicated that greater trait shame, $b = .083$, $SE_b = .021$, $\beta = .285$, $p < .001$, and dissociation, $b = .055$, $SE_b = .025$, $\beta = .174$, $p < .025$, were both associated with higher engagement in overall harmful behaviours. However, the interaction between shame and dissociation was not statistically significant, $b = .00$, $SE_b = .001$, $\beta = .023$, $p = .728$. For the indirect forms of harmful behaviours (SIQ Indirect), findings indicated that higher trait shame, $b = .038$, $SE_b = .015$, $\beta = .191$, $p = .011$, but not dissociation, $b = .021$, $SE_b = .018$, $\beta = .094$, $p = .25$, was associated with higher engagement in indirect forms of harmful behaviours. Once again, the interaction between shame and dissociation was not statistically significant, $b = .001$, $SE_b = .001$, $\beta = .07$, $p = .317$. For the overt forms of harmful behaviours (SIQ Overt), the results indicated that higher trait shame, $b = .044$, $SE_b = .009$, $\beta = .319$, $p < .001$, and dissociation, $b = .032$, $SE_b = .011$, $\beta = .214$, $p < .005$, were both independently associated with higher engagement in overt harmful behaviours. Once more, the interaction between shame and dissociation was not statistically significant, $b = .000$, $SE_b = .001$, $\beta = -.035$, $p = .584$.

These findings suggest that dissociation and shame together contribute nothing more to the variance explained in the engagement in harmful behaviours than either variable alone.

Thus, it appears that dissociation and shame are more likely to act independently of each other in their contribution to the risk of engaging in harmful behaviours, and dissociation does not moderate the relation between shame and harmful behaviours.

Discussion

Overall Findings

The present study sought to examine Karpel and Jerram's (2015) quartile risk model and whether it could predict engagement in harmful behaviours, specifically DSH. While dissociation is largely agreed upon as a predictor of DSH (Batey et al., 2010; Bracken et al., 2008; Briere & Gil, 1998; Kennedy, Kennerley, & Pearson, 2013; Kennerley, 1996), limited evidence exists that details how the differing levels of dissociation relate to the risk of engaging in harmful behaviours (Karpel & Jerram, 2015). In addition to this, the current study also sought to examine whether higher levels of DSH would be associated with higher levels of shame. Overall, it was found that as the level of dissociation increased the engagement in varying forms of harmful behaviours increased concurrently. This increase was most clearly evident for overt harmful behaviours (DSH). Thus, the current study's results do not appear to support the quartile risk model. Furthermore, it was found that higher levels of state and trait shame were associated with higher levels of DSH behaviour. Notably, shame was elevated before overt harmful behaviour (DSH) compared to after, but shame both before and after overt harmful behaviour was elevated compared to indirect harmful behaviours. Collectively, the results of the current study indicate support for hypothesis two, but do not support hypothesis one.

Demographic Descriptive Statistics

Analysis revealed no significant differences in age, relationship status, medication use, and gender across the four dissociative quadrants, suggesting that any effects seen across groups were not the result of these factors. However, significant differences were found for mental health status across the dissociation quadrants. Specifically, the likelihood of having mental health difficulties appears to increase as dissociation increases. This is a consistent

finding with existing research (Lipsanen et al., 2004), and suggests increased mental health difficulties are associated with more dissociation.

Examination of Experimental Conditions and the Quartile Risk Model

Results from the current study indicate that measures of shame, and harmful behaviours demonstrated a general increasing trend across the dissociation quadrants. Most notably, the current findings suggest that the risk for engaging in DSH behaviours grew in conjunction with increasing levels of dissociation. This finding contradicts Karpel and Jerram's (2015) study and indicates that their proposed quartile risk model for predicting DSH behaviours was not supported. The quartile risk model may have been an attempt by Karpel and Jerram (2015) to clarify their findings in consideration of existing evidence. That is, by suggesting that normative and clinical dissociation may represent either a risk or a protective factor for engagement in DSH, the researcher's produced a theoretical model that integrates their own findings with that of existing evidence. However, their findings that clinical dissociation groups were not significantly associated with DSH may in fact be explained by the small proportion of participants within these groups (Baer & Ahern, 1993). Only 8% ($n = 6$) of their entire sample ($N = 75$) scored above the recommended clinical cut-off on the DES-T for these dissociation groups. This would suggest that statistics associated with these groups were underpowered, which may account for their non-significant predictive utility with DSH (Baer & Ahern, 1993). In comparison, the current findings appear to support Karpel and Jerram's (2015) initial hypothesis, namely that taxonomic levels of dissociation would represent increasing levels of risk for engagement in harmful behaviours. This finding may be explained by the larger sample sizes within the low clinical ($n = 35$) and severely clinical ($n = 23$) dissociation groups, lending more predictive power to these findings. Thus, it may be that the current study better represents the full breadth of clinical dissociation drawn from a community sample.

Overall, this finding is consistent with existing research that identifies dissociation as a predictor of DSH (Batey et al., 2010; Bracken et al., 2008; Briere & Gil, 1998; Gratz et al., 2002). Further to this, it captures dissociation's relationship with DSH (i.e., overt harmful behaviour) as representing a continuum of risk. That is, the findings suggest that increasing levels of dissociation are predictive of engagement in more harmful behaviours such as DSH.

Analysis of shame measures revealed that trait shame grew alongside increasing levels of dissociation. This finding fits with existing literature which posits higher levels of dissociation and shame often co-occur (Dorahy et al., 2016; Dorahy et al., 2017), and that both phenomenon are associated with early life trauma (Dalenberg et al., 2012; Gilbert et al., 2010; Richter et al., 2009; Stuewig & McCloskey, 2005). However, it also furthers the current understanding of dissociation and shame by accentuating the relationship between the two across a taxonomic spectrum. Thus, the present findings appear to be unique in that they demonstrate how experiences of shame shift as experiences of dissociation increase.

Examination of State Shame and Deliberate Self-Harm

The current findings indicate that higher levels of state shame are associated with higher levels of harmful behaviours. In an examination of shame's relationship with harmful behaviours, paired comparisons revealed that higher levels of state shame are more likely to be experienced both before and after engaging in overt forms of harmful behaviours (DSH) relative to indirect forms of harmful behaviours. This finding is commensurate with existing shame and DSH literature which suggests that shame precedes engagement in DSH and that shame may also be a consequence of the behaviour (M. Z. Brown et al., 2009; Klonsky, 2009).

Further comparisons revealed that significantly more shame is experienced before engaging in overt forms of harmful behaviours relative to after. This is a unique finding

which expands on the existing understandings of shame and DSH's relationship (M. Z. Brown et al., 2009; Klonsky, 2009). Seemingly, elevations in shame feelings in those who use DSH activate the initiation of this form of behaviour, potentially as a means of regulating the shame. Yet, the behaviour itself, following its initial dampening of shame, may reinstate shame feelings as appraisals of the behaviour begin. Further paired comparisons indicate that for indirect forms of harmful behaviours significantly more shame is experienced as a consequence to the behaviour rather than a precipitant. Thus, these findings suggest that relatively higher levels of shame are experienced after engaging in indirect forms of harmful behaviours, such as drinking alcohol, and that relatively higher levels of shame are experienced prior to engaging in overt forms of harmful behaviours, such as cutting or burning.

The finding that more state shame is experienced before engagement in overt harmful behaviours, relative to after, may be partially explained by M. Z. Brown and colleagues (2009) findings. The researchers suggest that individuals with a self-concept characterised by negative self-evaluations may be more likely to experience events in their life that activate state shame. These state shame triggers are known to represent a larger risk for engagement in self-punishment in the form of DSH (M. Z. Brown et al., 2009). Consistent with this, Schoenleber and colleagues (2014) provided evidence to suggest that the experience of pain, through DSH, may serve as a maladaptive mechanism to down-regulate shame experiences. Thus, the current findings support the affect regulation and self-punishment explanations of DSH (M. Z. Brown et al., 2009; Buckholdt et al., 2015; Hayes et al., 2016; Klonsky, 2007; Laye-Gindhu & Schonert-Reichl, 2005; Xavier et al., 2016). Lending further support to this discourse, the current study also found that the two most frequently endorsed reasons for DSH behaviours were self-punishment and regulation of feelings.

For those who engage in indirect forms of harmful behaviours, the higher levels of shame experienced as a consequence to the behaviour may be partially explained by M. Z. Brown and colleagues' (2009) suggestion. The researcher's posit that engagement in overt harmful behaviours represents a social transgression, and this may activate shame as a consequence to the behaviour. Similarly, it is possible that engagement in indirect forms of harmful behaviours may also represent a social transgression (Briere & Gil, 1998; M. Z. Brown et al., 2009). This may explain why higher levels of state shame occur as a consequence to indirect forms of the behaviour, relative to that preceding it. An example of this may be a person having too much alcohol to drink on a night out and accidentally hurting themselves. The person may feel some shame following this incident, especially if it was witnessed by peers.

Taken together, these results consolidate existing shame and DSH evidence, as well as expand upon the current understanding of this relationship (Klonsky, 2009; Xavier et al., 2016). While it is known within current research that shame may precede and follow DSH acts (M. Z. Brown et al., 2009; Klonsky, 2009), the presented evidence that shame is higher before DSH behaviours than it is after, while shame is higher after indirect harmful behaviours than it is before, are unique findings.

Examination of Trait Shame and Deliberate Self-harm. In a further examination of shame's relationship with harmful behaviours, the correlation coefficients for measures of trait shame with overt and indirect harmful behaviours were compared. The current findings lend further support to hypothesis two, and suggests that a significantly stronger association exists between characterological, behavioural, and total shame with overt forms of harmful behaviours relative to indirect forms. There was no significant difference between the correlation coefficients for the measure of bodily shame.

These findings are consistent with existing research which suggests that those who develop high levels of overall trait shame are at an increased risk of engaging in DSH behaviours (M. Z. Brown et al., 2009; Flett et al., 2012; Xavier et al., 2016). Further to this, these results suggest those who possess more characterological shame traits are at an increased vulnerability of engaging in DSH. These traits include personal habits, self-perceptions of character, and personal abilities associated with shame or activating shame (Andrews, Qian, & Valentine, 2002). This finding is consistent with existing research (M. Z. Brown et al., 2009; Flett et al., 2012; Xavier et al., 2016) which suggests that global negative evaluations represent a strong predictor of DSH behaviours. However, the finding that those who possess increased behavioural shame traits are more vulnerable to engaging in DSH behaviours is not well documented in existing literature. These traits are largely based around perceived shame about doing something wrong, saying something wrong, and failure to perform (Andrews et al., 2002). This finding may be explained by Xavier, Pinto, Gouveia, and Cunha's (2016) assertion that individuals who believe they are perceived negatively by peers, and have a tendency for self-criticism, are at an increased risk of engaging in DSH.

Of particular interest, the lack of significant difference between overt and indirect harmful behaviours for bodily shame does not support existing literature (Bjärehed & Lundh, 2008; Flett et al., 2012). Current research suggests that bodily shame is a significant predictor of DSH, especially for women, because it is associated with self-objectification and low appearance self-esteem (Bjärehed & Lundh, 2008; Dakanalis, Madeddu, Clerici, Riva, & Zanetti, 2013; Flett et al., 2012). To the contrary, although a non-significant difference existed, bodily shame was more strongly related to indirect forms of harmful behaviours in this study than it was to overt forms. However, these contradictory results may be explained by Andrew and colleagues (2016) findings. These researchers examined health-related outcomes of body image in a sample of adolescent girls. During a one year follow-up

period, they found that girls with low body appreciation were more likely than girls with high body appreciation to engage in indirect harmful behaviours such as smoking and drinking alcohol (Andrew, Tiggemann, & Clark, 2016). The implications of these findings to the current study may be that low body appreciation is inherently associated with bodily shame, and that these are more strongly related to indirect forms of harmful behaviours than they are to overt. It may be that engagement in behaviours such as drinking and smoking acts to down regulate bodily shame and negative affect associated with low body appreciation. However, these summations should be interpreted with caution given that the current study, and Andrew and colleagues (2016), utilised a largely a female sample (Flett et al., 2012; Karpel & Jerram, 2015). Thus, how this finding represents males is yet to be fully determined.

Moderation Analysis: Shame, Dissociation, and Deliberate Self-harm

Based on the current finding that shame increases concurrently with increasing levels of dissociation, the present study sought to determine whether dissociation and shame interacted to produce more or less engagement in harmful behaviours. The current findings suggest that shame and dissociation were both significant independent predictors of overt, and overall forms of harmful behaviours. However, the results did not support shame and dissociation interacting to produce a significant effect on harmful behaviours. Rather, the finding that shame and dissociation independently represent significant predictors of harmful behaviours is consistent with existing literature (Batey et al., 2010; M. Z. Brown et al., 2009; Flett et al., 2012; Klonsky, 2007; Xavier et al., 2016). Seemingly, the interaction produced no increase than their individual effects.

Motivations for DSH

The current findings suggest that the most frequently endorsed motivations, by numbers, for engagement in DSH behaviours were those of self-punishment, regulation of

feelings, communication with others, and tension reduction. These reason categories were also on weighted average, proportionally the most frequently endorsed reason categories. However, the finding that self-punishment was the most frequently endorsed reason category on weighted average is not entirely consistent with existing research (Klonsky, 2007). Current evidence suggests affect regulation is the most frequently endorsed function of DSH (Buckholdt et al., 2015; Gratz, 2003; Gratz et al., 2016). In this study it was rated second. Nevertheless, these findings are largely commensurate with existing evidence which suggests that self-punishment and affect regulation are the most frequently endorsed functions of DSH behaviours (Gratz, 2000, 2003; Klonsky, 2007). It was also found that the motivations of protection of others, re-enactment, and suicide attempts received the lowest average endorsements. This is generally supportive of existing literature, especially that which stipulates engagement in DSH is not motivated by suicidal intentions (Gratz, 2003; Gratz et al., 2002; Klonsky et al., 2003; Nock, 2010).

The finding that the reason category communication with others was the equal most frequently endorsed category ($n = 141$) has less support in existing literature. This motivation represents an inter-personal function, often conceptualised as a poorly developed ability to communicate distress to others (Briere & Gil, 1998; Gratz, 2003; Klonsky, 2007; Linehan, 1993). However, although this reason category had the equal highest number of participants endorse it, its weighted average proportion of endorsement is less reflective of this. That is, although a large amount of participants endorsed this reason category as a whole, it suggests that on average they endorsed fewer motivation items within that reason category than they did for self-punishment and regulation of feelings. This is more consistent with existing evidence, and suggests that the intra-personal functions of DSH were more prominent motivators of the behaviour than the inter-personal functions (Briere & Gil, 1998).

The reason category representing dissociation (restoration of reality) was the fifth most endorsed reason for DSH behaviours. This finding suggests that this was a regular reason for engagement in DSH behaviours. It is also largely consistent with existing evidence supporting the anti-dissociation motivation for DSH (Klonsky, 2007). Of particular interest, ‘Fun’ was on average the seventh most frequently endorsed reason category for DSH. This is an unusual finding and it is counter intuitive to much of the existing functional perspectives for the behaviour (Briere & Gil, 1998; Gratz, 2003; Klonsky, 2007; Nock, 2010). However, this finding may be partially explained by Cerutti and colleagues’ (2012) research. They found a positive association between DSH and “fun-seeking” motivations. The researchers suggest that behavioural motivations related to fun represent a construct that is closely associated to impulsive traits. They further suggest that impulsive, fun seeking, traits support evidence indicating that those who engage in DSH may have difficulties resisting the urge to harm themselves in the moment (Cerutti, Presaghi, Manca, & Gratz, 2012).

Overall the findings support existing evidence regarding affect regulation and self-punishment as core motivations for DSH (Briere & Gil, 1998; Gratz, 2003; Gratz et al., 2016; Klonsky, 2007, 2009). However, they also present some unusual findings in regards to the motivation for DSH. Generally, the findings largely strengthen the already existing knowledge base.

Gender Differences and Harmful Behaviours

In an examination of gender differences and harmful behaviours the mean SIQ Indirect, Overt, and Total scores were compared to determine if any significant effects were present for gender. The current results suggest that no significant gender differences were present for overall and overt forms of harmful behaviours. However, the current findings

suggest that significantly more females engaged in more indirect harmful behaviours than males.

The finding that males and females demonstrated a near equivalent rate of engagement in overall and overt (DSH) behaviours is consistent with existing evidence (S. Brown, Williams, & Collins, 2007; Gratz et al., 2002; Klonsky et al., 2003; McMahon et al., 2010; Zoroglu et al., 2003). However, the belief that engagement in DSH is much more prominent within female populations than within males is still a prevailing discourse (Laye-Gindhu & Schonert-Reichl, 2005; Xavier et al., 2015). Upon further examination of studies reporting these prevalence rates it is evident that the majority of them are made up of a predominantly female sample, as this study was. Therefore, it may be that the genuine prevalence of male engagement in DSH is not well captured in some of the existing literature.

Further to this, some existing evidence suggests that males engage in different forms of harmful behaviours relative to females. Laye-Gindhu and Schonert-Reichl (2005) found that cutting behaviours were the most common type of DSH reported by females, while hitting or biting was the most common reported by males in their study. This finding suggests that males certainly engage in DSH behaviours, and it may mean that existing evidence fails to capture the diverse methods in which males and females differentially harm themselves. Demonstrating this point, in an examination of the functions of DSH, Klonsky (2009) recruited 39 participants. As part of his selection criteria, Klonsky's (2009) study only included participants who at minimum had engaged in cutting behaviours, regardless of other DSH methods. Klonsky (2009) justified this selection criteria based on evidence that cutting behaviour is the most common form of DSH (Briere & Gil, 1998). However, and in line with the aforementioned evidence (Laye-Gindhu & Schonert-Reichl, 2005), Klonsky's (2009) selection process resulted in a predominantly female sample (77%), with males seemingly not well represented within the researcher's study. Nonetheless, the issue of accurate prevalence

rates appears to be one that is shifting within existing research and the current findings lend further support to a discourse of a more equivalent prevalence rate.

The finding that more females engaged in indirect harmful behaviours than males is an interesting result. There has been limited evidence that examines this phenomenon, and it suggests that females may be more vulnerable to engaging in this form of harmful behaviour than males. However, the proportion of females in the current study was much larger than that of males. Thus the true representativeness of this finding for males should be interpreted with caution. Nonetheless, this finding is intriguing and it may be partially explained by a study conducted by Nelson and colleagues (2016). The researchers' examined the role of gender, family characteristics, and health behaviours among a sample of adolescents. Their findings suggest that for both males and females, parental monitoring and support represented general protective factors for engagement in risky behaviours such as drinking alcohol, smoking, and sexual activity (Nelson et al., 2016). However, they found that higher levels of perceived family conflict represented a larger vulnerability for females engaging in risky health related behaviours than it did for males (Nelson et al., 2016). Thus, these findings suggest that family processes are more strongly related to engagement in risky health behaviours among females than males. This may at least partially explain why significantly more females engaged in indirect harmful behaviours than males within the current study.

Taken together, these findings are commensurate with existing literature detailing DSH prevalence rates (S. Brown et al., 2007; Gratz et al., 2002; Klonsky et al., 2003; McMahon et al., 2010; Zoroglu et al., 2003). It also presents some interesting findings relative to indirect prevalence rates and suggests that females may be more likely to engage in indirect harmful behaviours than males.

Practical and Theoretical Implications

The ideas presented in the current study have potentially important implications for the continuing examination of DSH and its relationship with dissociation. Moreover, these findings expand upon the already empirically validated link between dissociation, shame, and DSH (Batey et al., 2010; Bracken et al., 2008; Briere & Gil, 1998; M. Z. Brown et al., 2009; Gratz et al., 2002; Schoenleber, Berenbaum, & Motl, 2014; Tolmunen et al., 2008). Based on the current findings, it appears that shame and dissociation act independently of each other, rather than as an interaction, and both may function to precipitate engagement in DSH. The resulting implication of this finding may be that it is pertinent to incorporate specific assessment procedures designed to identify the presence of shame and dissociation, and both should be targeted in treatment. This approach would be especially relevant when assessing already vulnerable populations, adolescents. Thus, by incorporating specific approaches designed to identify the presence of these individual variables during an assessment, it may facilitate early identification of at risk individuals before DSH occurs, or offer more effective interventions if it has commenced.

The reported prevalence of DSH behaviours among males and females in existing research is continually evolving. Nevertheless, the present study supports more recent research concerning prevalence rates (S. Brown et al., 2007; Gratz et al., 2002; Klonsky et al., 2003; McMahon et al., 2010; Zoroglu et al., 2003). However, an important implication to be taken from the current findings is that females may be more vulnerable to engaging in indirect harmful behaviours than males. Although there is a lack of evidence concerning this phenomenon, it appears that females engaging in indirect harmful behaviours may at least partially result from disruptive family processes (Nelson et al., 2016). Therefore, it may be that females and males display similar rates of engagement in DSH, but that females are more vulnerable to developing the indirect forms of harmful behaviours than males.

Methodological Considerations

Several aspects of the current study may have limited the research findings and generalisations in various ways. One limitation was the reliance on self-report measures of harmful behaviours, dissociation, and shame. This method of data collection was utilised because DSH often represents a secretive and hidden behaviour associated with the experience of shame as a consequence (M. Z. Brown et al., 2009). It was hoped that giving participants the opportunity to complete the questionnaire in their own private space would reduce under-reporting of harmful behaviours. However, it provides no way of substantiating the actual objective incidence of their harmful behaviours and may have inadvertently facilitated over-reporting of these occurrences (Gratz et al., 2002). Another problem with this method of data collection was the possibility of retrospective bias. As Gratz and colleagues (2002) discuss, individuals with a history of DSH may be more likely to remember incidences of shame, dissociation, and DSH as occurring more frequently than individuals with no history of DSH behaviours. The difficulty with retrospective bias is that there is no way to accurately determine the extent of its influence on the current findings. Thus, future research replicating the current study, with similar findings, would serve to strengthen the validity and reliability of the current findings. In doing so, replicated findings would provide evidence that the effect of bias within the current study was less influential than originally thought.

Participants were recruited by several means (undergraduate research participant pool, emails, and flyers). These recruitment methods all made mention of the study's aims being to determine the risk of engaging in different behaviours, rather than DSH specifically. This was done as a means to reduce possible bias on participant sign-up. Although no mention was made of DSH, this script may still have influenced a particular cohort of students to volunteer. Further to this, the information sheet provided for participants prior to

commencement of the study contained information relevant to the nature of the experiment. Specifically, it described the potential for distress while partaking in the questionnaire, and made further reference to accessing support services if needed. It is possible that this influenced some participants to stop, or continue with, the study. Such occurrences impact on the representativeness of the sample. However, given the nature of the study it would have been unethical not to outline the risks associated with participation, as well as methods of contacting support services.

The current study's sample was recruited entirely from the undergraduate student population, and was predominantly made up of undergraduate psychology students. Although this sample was considered appropriate for this study, caution is advised when generalising these findings to other populations or even other samples (Gratz et al., 2002). Furthermore, a large proportion of the recruited participants in the current study were female. This represents a typical sample make up (Gratz et al., 2002; Patel, Doku, & Tennakoon, 2003). Given existing evidence that suggests dissociation represents a larger risk for DSH in females than males (Bracken et al., 2008; Briere & Gil, 1998; Gratz et al., 2002), a study with equal gender proportions would likely provide a greater understanding of these risks for males.

Future Research

With the relative lack of research into how differing levels of dissociation predict the risk of engaging in DSH (Karpel & Jerram, 2015), future work is needed in this area to develop a better understanding of this association. The present findings explored dissociation across a taxonomic spectrum, but it did not measure the specific forms of dissociation experienced across the levels. Thus, as discussed by Karpel and Jerram (2015), a closer examination of specific dissociative phenomenon (e.g., depersonalisation, derealisation, and

amnesia) across the dissociation levels would further inform existing evidence as to which specific dissociative experiences predict DSH behaviours.

The current research provided interesting outcomes with regard to shame and its predictive association with DSH. Specifically, for overt forms of harmful behaviours more shame was experienced directly preceding DSH relative to after, while more shame was experienced after engagement in indirect forms of harmful behaviours relative to before. While rationale was provided for these findings there is limited evidence that exists to explain the results for that of indirect harmful behaviours (Briere & Gil, 1998; M. Z. Brown et al., 2009). As such, future forays examining state shame and engagement in harmful behaviours would likely benefit from the inclusion of measures of developmental history. Given the known link between shame, harmful behaviours, and specific developmental experiences (Batey et al., 2010; Briere & Gil, 1998; M. Z. Brown et al., 2009; Dalenberg et al., 2012; Flett et al., 2012; Gilbert et al., 2010), the inclusion of these variables into a future study would serve to clarify specific developmental experiences associated with shame that are more strongly related to the engagement in different indirect harmful behaviours.

Similarly, examination of trait shame and its predictive association with indirect and overt harmful behaviours in the current study produced results that largely fit with existing evidence (M. Z. Brown et al., 2009; Flett et al., 2012; Xavier et al., 2016). However, the finding that behavioural shame was a significant predictor of DSH, while bodily shame was a non-significant predictor of DSH, does not fit with existing evidence (Bjärehed & Lundh, 2008). Future research may investigate the suggestion that DSH represents a significant social transgression which may account for the higher levels of behavioural shame associated with it (M. Z. Brown et al., 2009). In addition to this, the finding that more bodily shame is associated with indirect harmful behaviours than overt requires future attention. The current study utilised a predominantly female sample. This is a common outcome for many

researchers recruiting from a psychology course for the purposes of psychological research (Gratz et al., 2002; Patel et al., 2003). However, it is not yet clear as to the full extent of risk that bodily shame poses for males. Given that bodily shame has been implicated as a specific vulnerability for females engaging in indirect harmful behaviours (Andrew et al., 2016; Bjärehed & Lundh, 2008; Dakanalis et al., 2013; Flett et al., 2012), future studies may benefit from utilising a balanced sample of males and females. This would likely serve to better represent the associated risk for males, as well as strengthen the current understanding of bodily shame's predictive association with indirect harmful behaviours.

Conclusion

The current study examined Karpel and Jerram's (2015) quartile risk model for predicting harmful behaviours. Analyses did not support the quartile risk model. Rather harmful behaviours rose concurrently alongside increasing dissociation, reflecting a general increasing relationship. Furthermore, the study examined whether or not DSH behaviours would be associated with higher levels of shame. Support was found for higher levels of shame being associated with higher levels of DSH behaviours. The current study also found that significantly more overall, characterological, and behavioural trait shame was associated with overt harmful behaviours than indirect. Similarly, significantly more state shame before and after engagement in DSH occurred relative to state shame before and after engagement in indirect harmful behaviours. State shame was higher before engagement in DSH relative to after. While state shame was higher after engagement in indirect harmful behaviours than it was before. Dissociation and shame did not combine to increase the predictive ability of engagement in DSH. Reason categories of self-punishment, affect regulation, and communication with others were the most frequently endorsed motivations of DSH. Males and females did not significantly differ in their engagement in DSH behaviours, but females engaged in significantly more indirect harmful behaviours than males. The current study

provides important implications for dissociation and shame's relationship with DSH, and may also improve clinical awareness of these phenomenon and facilitate early intervention of DSH behaviours.

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Appendices

APPENDIX A: *Recruitment*

A.1 Email distributed during recruitment.

Hi there,

My name is Jack Carrell and I am a Master's Thesis student conducting research under the supervision of Associate Professor Martin Dorahy and Dr Neil Thompson. My research is attempting to understand more about how different levels of dissociation impact on different behaviours, including the common experience people might have of hurting themselves (e.g., scratching or hitting themselves) when they are feeling upset or distressed. To do this, we are looking for undergraduate students of the University of Canterbury to volunteer as participants. All undergraduates are welcome to participate. Participation is straightforward and completely anonymous, it requires those who volunteer to fill out an online questionnaire that will take no longer than 30 minutes to complete.

For students who are a part of the Psychology 105/106 course, participation will fulfill your course requirement of partaking in research. For all other undergraduate students, participation means you will go in the draw to win 1 of 10 \$50 Westfield Mall vouchers.

If you would like to participate, please follow the link below which will direct you to the online questionnaire. From there, have a read of the information sheet and the consent form before beginning the questionnaire.

INSERT WEB LINK TO ONLINE QUESTIONNAIRE


If you have any questions, please feel free to contact me by email (jack.carrell@pg.canterbury.ac.nz).

Thanks!

Jack Carrell

A.2 Recruitment flyer distributed across campus during recruitment

Volunteers Needed!



- If you're an undergraduate UC student we need you!
- Psychology 105/106 students receive course credit for their participation.
- Participate and go in the draw to win a \$50 Westfield mall voucher.
- Be a part of the research validating a new model that predicts the risk engaging in different behaviours.

We are investigating how different levels of dissociation affect the risk of engaging in different behaviours. To participate, volunteers will simply be required to fill out a completely anonymous online questionnaire. Those students part of the Psychology 105/106 courses will receive course credit for their participation, while all others will go in the draw to win 1 of 10 \$50 Westfield mall vouchers.

If you would like to participate, please follow the web link below which will direct you to the online questionnaire.

For more information, or any questions, please contact **Jack Carrell** (contact details below).

Insert link to online questionnaire

Email: Jack.carrell@pg.canterbury.ac.nz

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee.

APPENDIX B: *Ethical Approval*

HUMAN ETHICS COMMITTEE

Secretary, Lynda Griffioen
Email: human-ethics@canterbury.ac.nz

Ref: HEC 2015/124

18 November 2015

Jack Carrell
Department of Psychology
UNIVERSITY OF CANTERBURY

Dear Jack

The Human Ethics Committee advises that your research proposal "Assessing the validity of the quartile risk model for predicting risk of self-harm" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your email of 18 November 2015.

Best wishes for your project.

Yours sincerely

A handwritten signature in black ink, appearing to read 'L. MacDonald'.

Lindsey MacDonald
Chair
University of Canterbury Human Ethics Committee

APPENDIX C: *Questionnaires*

C.1 Demographic questionnaire

Demographic survey

1). Age:

2). Sex: **M** **F** (please circle one)3). University of Canterbury undergraduate student: **Yes** **No**

4). Martial status (e.g., single, in relationship, married, separated)_____

5). Have you ever had any issues with your mental health in the past? **Yes** **No**
Don't want to answer

If Yes, please explain:_____

6). Are you currently on any medication for psychological difficulties? **Yes** **No**
Don't want to answer

If yes, please state which one/s_____

If yes, what are the most common side effects of these medications for you?

C.2 Dissociative Experiences Scale - Second Edition (page 1 of 3)

D E S

These questions describe experiences that you may have in your daily life. Your answer should show how often these experiences happen to you when you **ARE NOT** under the influence of alcohol or drugs. **CIRCLE** a number from 0% to 100% to show what percentage of the time this happens to you. If it happens 45% of the time, circle both 40% and 50%.

Date _____ Age _____ Sex: M F

1. Some people have the experience of driving or riding in a car or bus or subway and suddenly realising that they don't remember what has happened during all or part of the trip.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
2. Some people find that sometimes they are listening to someone talk and they suddenly realise that they did not hear part or all of what was said.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
3. Some people have the experience of finding themselves in a place and having no idea how they got there.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
5. Some people have the experience of finding new things among their belongings that they do not remember buying.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
6. Some people sometimes find that they are approached by people that they do not know who call them by another name or insist that they have met them before.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something and they actually see themselves as if they were looking at another person.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
8. Some people are told that they sometimes do not recognise friends or family members.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation).
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
10. Some people have the experience of being accused of lying when they do not think that they have lied.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
11. Some people have the experience of looking in a mirror and not recognising themselves.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
12. Some people have the experience of feeling that other people, objects and the world around them are not real.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)

C.2 Dissociative Experiences Scale (page 2 of 3)

13. Some people have the experience of feeling that their body does not seem to belong to them.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
18. Some people find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
19. Some people find that they sometimes are able to ignore pain.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
21. Some people sometimes find that when they are alone they talk out loud to themselves.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were two different people.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.).
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing this (for example, not knowing whether they have just mailed a letter or have just thought about mailing it).
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
25. Some people find evidence that they have done things that they do not remember doing.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)

C.2 Dissociative Experiences Scale (page 3 of 3)

27. Some people sometimes find that they hear voices inside their head that tell them to do things or comment on things that they are doing.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)
28. Some people sometimes feel as if they are looking at the world through a fog so that people and objects appear far away or unclear.
(NEVER) 0% 10 20 30 40 50 60 70 80 90 100 (ALWAYS)

C.3 Experience of Shame Scale (Page 1 of 2)

Experience of Shame Scale

Everybody at times can feel embarrassed, self-conscious or ashamed. These questions are about such feelings if they have occurred at any time in the past year. There are no 'right' or 'wrong' answers. Please indicate the response which applies to you with a tick.

		<i>Not at all</i>	<i>a little</i>	<i>moderately</i>	<i>very much</i>
1.	Have you felt ashamed of any of your personal habits?	()	()	()	()
2.	Have you worried about what other people think of any of your personal habits?	()	()	()	()
3.	Have you tried to cover up or conceal any of your personal habits?	()	()	()	()
4.	Have you felt ashamed of your manner with others?	()	()	()	()
5.	Have you worried about what other people think of your manner with others?	()	()	()	()
6.	Have you avoided people because of your manner?	()	()	()	()
7.	Have you felt ashamed of the sort of person you are?	()	()	()	()
8.	Have you worried about what other people think of the sort of person you are?	()	()	()	()
9.	Have you tried to conceal from others the sort of person you are?	()	()	()	()
10.	Have you felt ashamed of your ability to do things?	()	()	()	()
11.	Have you worried about what other people think of your ability to do things?	()	()	()	()
12.	Have you avoided people because of your inability to do things?	()	()	()	()
13.	Do you feel ashamed when you do something wrong?	()	()	()	()

C.3 Experience of Shame Scale (Page 2 of 2)

		<i>Not at all</i>	<i>a little</i>	<i>moderately</i>	<i>very much</i>
14.	Have you worried about what other people think of you when you do something wrong?	()	()	()	()
15.	Have you tried to cover up or conceal things you felt ashamed of having done?	()	()	()	()
16.	Have you felt ashamed when you said something stupid?	()	()	()	()
17.	Have you worried about what other people think of you when you said something stupid?	()	()	()	()
18.	Have you avoided contact with anyone who knew you said something stupid?	()	()	()	()
19.	Have you felt ashamed when you failed in a competitive situation?	()	()	()	()
20.	Have you worried about what other people think of you when you failed in a competitive situation?	()	()	()	()
21.	Have you avoided people who have seen you fail?	()	()	()	()
22.	Have you felt ashamed of your body or any part of it?	()	()	()	()
23.	Have you worried about what other people think of your appearance?	()	()	()	()
24.	Have you avoided looking at yourself in the mirror?	()	()	()	()
25.	Have you wanted to hide or conceal your body or any part of it?	()	()	()	()

C.4 Self-Injury Questionnaire (Page 1 of 16)

SELF-INJURY QUESTIONNAIRE

Sometimes people engage on purpose in behaviors that affect or change their bodies. This questionnaire asks about behaviors like these that you may have engaged in and reasons why you have done them. If you have ever engaged in the behavior listed, please circle the numbers of all reasons that apply to why you have done that particular behavior.

1. Cosmetic surgery (e.g., nose job, liposuction) other than after a serious injury or accident
- How many surgeries have you had? _____ (if none, skip to question #2)
 - On which body parts have you had cosmetic surgery? (please list all): _____

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

2. Tattoos

- How many tattoos do you have? _____ (if none, skip to question #3)
- On which body parts do you have tattoos? (please list all): _____
- Approximately how many inches across is your biggest tattoo? _____ inches

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 2 of 16)

3. Body piercing (other than ears)

a. How many piercings do you have? _____ (if none, skip to question #4)

b. On which body parts have you been pierced? (please indicate all): _____*If you have ever engaged in this behavior, circle the numbers of all applicable reasons:*

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

For the remaining questions, please circle the number that indicates the most frequently (if ever) you have engaged in each behavior listed here. The number you circle should indicate the most that you have ever done this behavior even if your current behavior is different. As above, if you have ever engaged in the behavior listed, please circle the numbers of all reasons that apply to why you have done that particular behavior.

4. Drank alcohol until vomited or passed out

- | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|-------|--------------------|---------------------------|----------------------------|------------------------|-------------------------|-------|
| Never | Once/Twice
Ever | Couple of
Times a Year | Once /
Twice
a Month | Once / Twice
a Week | Several
Times a Week | Daily |

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 3 of 16)

5. Used marijuana

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

6. Used illegal drugs other than marijuana (e.g., cocaine, amphetamines)

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 4 of 16)

7. Abused prescription or over-the-counter medications

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

8. Thrown up on purpose after eating large amounts of food

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 5 of 16)

9. Binged on food (ate an excessively large amount) on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

10. Fasted for a day or more on purpose (not for religious reasons)

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 6 of 16)

11. Used laxatives, enemas, or diuretics for other than medical reasons

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

12. Exercised even though you were very sick or seriously injured

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 7 of 16)

13. Smoked cigarettes

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

14. Drove recklessly

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 8 of 16)

15. Drove while intoxicated

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

16. Intentionally avoided going to the doctor even though very sick or seriously injured

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 9 of 16)

17. Spent time with people who were dangerous

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

18. Got into a physical fight

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 10 of 16)

19. Engaged in unprotected sex

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

20. Pinched your body on purpose until bruising or pain occurred

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 11 of 16)

21. Cut or gouged your body with a razor, broken glass, etc. on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

22. Burned yourself with a lit cigarette, match, or lighter on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 12 of 16)

23. Banged your head against a hard surface on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

24. Slapped yourself or hit yourself with something on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 13 of 16)

25. Punched walls or other objects on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

26. Engaged in sexual behaviors that led to physical pain or injury

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 14 of 16)

27. Scratched your skin on purpose till it hurt or bled

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

28. Picked at scabs, fingernails, or cuticles on purpose till they hurt or bled

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 15 of 16)

29. Pulled on your hair on purpose until it hurt or came out

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

30. Ate toxic substances or sharp objects (e.g., razor blades, staples) on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

C.4 Self-Injury Questionnaire (Page 16 of 16)

31. Bit yourself on purpose

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

32. Other behavior(s) not listed _____

1	2	3	4	5	6	7
Never	Once/Twice Ever	Couple of Times a Year	Once / Twice a Month	Once / Twice a Week	Several Times a Week	Daily

If you have ever engaged in this behavior, circle the numbers of all applicable reasons:

- | | |
|--|--|
| 1. For fun | 16. To achieve a feeling of peace |
| 2. For the rush of adrenaline or excitement | 17. To reduce tension or anxiety |
| 3. My friends or family did it or taught me to do it | 18. To "numb out" or "space out" |
| 4. To distract from feelings or thoughts | 19. To escape from reality |
| 5. To deal with physical pain instead of mental pain | 20. To deal with feelings of loneliness |
| 6. To distract from memories | 21. To purify myself or a part of myself |
| 7. To show the pain I felt inside | 22. To feel powerful |
| 8. To see blood | 23. To gain control over my body |
| 9. To get a reaction from someone | 24. To become sexually aroused or stimulated |
| 10. To express anger or frustration at someone else | 25. To protect people who are important to me |
| 11. To punish myself for something | 26. To re-enact or replay events from the past |
| 12. To express anger or frustration at myself | 27. Suicide attempt |
| 13. To deal with feelings about sex or closeness | 28. Instead of suicide or to avoid suicide |
| 14. To bring myself back to reality | 29. To get help or care from someone |
| 15. To feel real or alive | 30. I do not know why |

Other reason not indicated on list: _____

APPENDIX D: *Information Sheet*

D.1 Information sheet (page 1 of 2)

College of Arts

Department of Psychology
Tel: +64 3 364 2382, Fax: + 64 364 2181
Email: jack.carrell@pg.canterbury.ac.nz

**“Assessing the Validity of The Quartile Risk Model for Predicting Harming Behaviours”**

My name is Jack Carrell, I'm a Masters Thesis student at the University of Canterbury, and I'm working under the supervision of Associate Professor Martin Dorahy and Dr Neil Thompson. I am trying to understand more about how levels of dissociation affect (increase/decrease) the risk of self-harming behaviour. Self-harming behaviours are very common and include things like scratching or hitting oneself while upset or distressed. The study will gather information from participants who have volunteered to complete an online questionnaire. We are interested in recruiting people who may have experienced harming themselves as well as those who have not.

Overview of participation

As part of this research project I will be inviting University of Canterbury undergraduate students to complete an online questionnaire. The questionnaire will ask you about your levels of dissociation (Dissociative Experience Scale – II), self-harm (The Self-Injury Questionnaire), and experiences of shame (The Experience of Shame-Scale). It is estimated that completing the questionnaire should take no longer than 30 minutes. For undergraduate, 100 level, University of Canterbury Psychology students, participation in this study will fulfill your course requirement of partaking in post-graduate research. For other undergraduate students from the university, your participation will mean that you are eligible to go in the draw for 1 of 10 \$50 Westfield Mall shopping vouchers. You will be able to enter your details for the draw upon completion of the questionnaire. Each participant will be allowed to participate only once in the current study.

Please be aware that some of the questions asked in this survey may cause you some distress. If at any stage while answering the questionnaire you feel uncomfortable, please take a moment to collect your thought and determine if you'd like to continue. A list of support services is provided at end of the study.

If you would like to be involved, please follow the link at the bottom of this information sheet and you will be directed to the online questionnaire.

The use of your information

Participation is voluntary and anonymous, you have the right to withdraw at any stage without penalty. If you withdraw, all information relating to you will not be used. However, once you complete the study your data will be anonymously merged with other data and it will not be possible to remove. If you have any questions before participating in the current study, you are encouraged to contact either Jack Carrell (contact details below) or Associate Professor Martin Dorahy (contact details below).

To ensure anonymity and confidentiality, your name will not be required. Only the researchers will have access to the data. There will be no data with identifying information, and the data will be stored securely on a computer within an excel spread sheet. Both the computer and excel

D.1 Information sheet (page 2 of 2)

spreadsheet will be secured with a password. The questionnaires, consent forms and computerised data will be destroyed after five years in compliance with university requirements.

A thesis is a public document and will be available through the UC Library. The results of the project may be published, but you may be assured of the complete anonymity of data gathered in this research. Your identity associated with the collected data will not be known by the researchers and will not be made public. The project is being carried out as a requirement of completing a Masters degree in Arts (Psychology) by Jack Carrell, the principal researcher, under the supervision of Associate Professor Martin Dorahy and Dr Neil Thompson. Jack Carrell can be contacted by email as listed at the bottom of this form and Martin Dorahy can be contacted by email: martin.dorahy@canterbury.ac.nz or by phone: 3643 416. They will be pleased to discuss any concerns you may have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee, and participants should address any complaints to: The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch or email: human-ethics@canterbury.ac.nz.

We are aware that some of the questions asked in this survey may be distressing. If you feel that you need any help while doing the study, or you would like to talk to someone, please return to this page and contact one of the support services below. Alternatively you can contact the researchers (see below):

Lifeline - 0800 543 354

Depression Helpline (8 am to 12 midnight) - 0800 111 757

Healthline - 0800 611 116

UC Student Support Services - Level 2, Central Library, Puaka-James Hight Building – (03) 364 2350

Samaritans - 0800 726 666

Suicide Crisis Helpline (aimed at those in distress, or those who are concerned about the wellbeing of someone else) - 0508 828 865 (0508 TAUTOKO)

Youthline - 0800 376 633, free text 234 or email talk@youthline.co.nz

You may request a copy of the research results at the conclusion of the project by contacting the researcher Jack Carrell.

If you're interested in participating in this research project, please follow the link below. This link will initially lead you to the consent page where you will be required to read and then electronically consent to the terms and conditions of this study.

INSERT ONLINE QUESTIONNAIRE WEB LINK

- **Jack Carrell**
Masters Thesis Student
University of Canterbury
Jack.carrell@pg.canterbury.ac.nz

- **Martin Dorahy**
Associated Professor
University of Canterbury
martin.dorahy@canterbury.ac.nz

Thank you for your participation.

Regards,

Jack Carrell

APPENDIX E: *Consent form***College of Arts**

Department of Psychology
Tel: +64 3 364 2382, Fax: +64 364 2181
Email: jack.carrell@pg.canterbury.ac.nz

**“Assessing the Validity of The Quartile Risk Model for Predicting Harming Behaviours”**

Please read the consent form carefully. By clicking the ‘next’ button below you are consenting to being involved in the study

I have been given a full explanation of this project and have contacted the researcher if I had any questions.

I understand that participation is voluntary and I may withdraw at any time.

I understand that any information or opinions I provide are anonymous.

I understand that a thesis is a public document and will be available through the UC Library.

I understand that all data collected for the study will be kept in a secure password protected electronic form, and will be destroyed after five years.

I understand the risks associated with taking part in this study and how they will be managed.

I understand that I am able to receive a report on the findings of the study by contacting the researcher at the conclusion of the project.

I understand that for further information I can contact the researcher Jack Carrell by email: jack.carrell@pg.canterbury.ac.nz and supervisor Martin Dorahy via email: martin.dorahy@canterbury.ac.nz or phone: 3643 416.

If I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

By clicking “Next” I agree to participate in this study and I understand what is required of me as part of this.

NEXT



APPENDIX F: *Survey debrief sheet*

Thank you for participating in this survey.

Where to get help:

We are aware that some of the questions asked in this questionnaire may be distressing. If you still feel that you need any help at all after doing the study, or you would like to talk to someone, please contact one of the support services below. Alternatively you can contact the researchers (see below):

Lifeline - 0800 543 354

Depression Helpline (8 am to 12 midnight) - 0800 111 757

Healthline - 0800 611 116

Samaritans - 0800 726 666

Suicide Crisis Helpline (aimed at those in distress, or those who are concerned about the wellbeing of someone else) - 0508 828 865 (0508 TAUTOKO)

Youthline - 0800 376 633, free text 234 or email talk@youthline.co.nz

If you have any questions or concerns regarding this study, please contact either Jack Carrell or Martin Dorahy.

- ***Jack Carrell***
Masters Thesis Student
University of Canterbury
Jack.carrell@pg.canterbury.ac.nz

- ***Martin Dorahy***
Associate Professor
University of Canterbury
martin.dorahy@canterbury.ac.nz